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AMATEUR RADIO

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EDITORIAL



BAND OCCUPANCY

Probably the most important question confronting the Radio Amateur to-day is the international allocation of frequencies, and in particular, how he will fare in the matter of allocation of Amateur Bands.

The Wireless Institute of Australia has been fortunate in having enjoyed close and sympathetic co-operation with the Postmaster-General's Department whose Radio Inspectors have done their utmost to facilitate the use by Amateur Stations of as much of the Spectrum as possible under the existing international plan.

Under the new allocations determined at Atlantic City, Amateurs will receive several new bands which will serve in some measure to offset the loss of other portions of the spectrum which we have had to accept with considerable reluctance.

The vital thing for Amateurs to remember is that these new bands must be used adequately and as quickly as possible unless we are prepared to suffer criticism for their disuse.

The Federal Executive is now discussing with the Department the question of Amateur Bands in our zone, and it is essential that we shall be able to give an assurance that when the com-

plete allocations are promulgated immediate use will be made of them.

One of the most difficult problems confronting the Federal Executive is to explain why the twenty metre band is so sadly misused for short haul contracts which could be carried out on V.H.F. bands and also why such lengthy conversations on trivial matters continue to cause congestion on a band which we are always claiming is too narrow now to accommodate all our stations.

In view of the increase in Amateur Stations throughout the world, we need to employ our bands to the best advantage or we can be sure that the ever-watchful commercial interests will endeavour to whittle down our hard won bands until there is nothing left except on extremely high frequencies.

The same argument can be used for the use of frequency modulation and pulse transmissions, the retention of which we may one day be asked to justify.

The Federal Executive intends to organise suitable contests to popularise the newer bands, but the influx to these new regions lies with each and every Amateur who is a true experimenter and really wants to enjoy Amateur Radio to the full.

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A BAND SWITCHING CONVERTER FOR THE V.H.F.s.

BY J. C. DUNCAN*, VK3VZ

In common with many other Amateurs who are now contemplating ways and means of venturing into the High Frequency spectrum, the writer felt the need of increasing the operating range of the normal station receiver, so that reception would be available up to the 166 Mc. band. In addition the performance of all receivers used on the lower frequencies, shows a marked falling off in performance above 22 Mc. so that any converter, which is the logical way of making this expansion, should start at the 28 Mc. band, followed by the 50-54 Mc. and then the 166-170 Mc. band.

Another important point to be considered is the fact that quite a few Amateurs are in possession of receivers from Disposals, which only go as high as 22 Mc., which also indicates 22 Mc. as the starting point.

In the writer's case the station receiver is an AMR200, which is the Australian version of the Super Pro, and it was decided that the converter be mounted in the compartment in the power supply chassis, which normally houses the power lead and cables. This compartment is quite small, being 7" high, 3 1/4" wide, and 12" deep, hence the unusual shape of the Converter, for due to the lack of available space, it was necessary to utilize every square inch available. Another problem which had to be solved here was the one of band changing, and it was obvious that the only way would be band switching. Frankly the writer was very dubious of switching coils at 166 Mc., but was amazed to find that results on this band compared more than favourably with an A.S.V. receiver, and showed a marked superiority in signal to noise ratio.

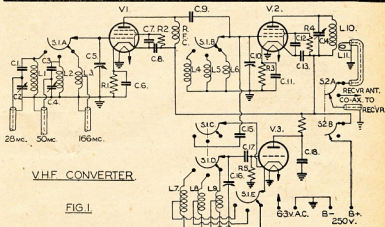
Before commencing with the design and construction of the Converter, it was decided to use an old converter which the writer had on hand, to conduct some experiments to determine whether it would be possible to use some form of dial-less converter, or broad band r.f. stages, and thereby simplify the design. Results in this direction were disappointing, and the conclusion was reached that these methods are satisfactory if one is willing to accept reduced performance. The first test was made along the dial-less converter lines, the converter oscillator was fixed at 20 Mc. and the receiver tuned between the limits of 7 Mc. and 10 Mc., giving a range of 27 to 30 Mc. It was found necessary to have a co-axial line connecting the receiver to the converter, and both receiver and converter completely shielded, to prevent pick-up of strong signals in the region of 7-10 Mc. However with all these precautions a few strong signals did appear at about strength 4. Another very strong carrier, picked up at 29.2 Mc. approximately, proved to be a harmonic of the receiver oscillator, which would have a very great nuisance value. The system also showed very uneven sensitivity due to

the output transformer of the Converter being untuned, whilst the first i.f. (the receiver) was varied. Attempts were made to broaden the resonance of this circuit by loading with a resistance, but this resulted in a marked decrease in the sensitivity of the Converter, although the circuit was broadened to the required amount. This same marked drop in sensitivity was also evident

when resistors were used to load the r.f. and mixer signal circuits, therefore it was obvious that the reduction in "Q," was bringing about a reduction in signal to noise ratio, because the tube noise was unaltered.

It was decided therefore that the best arrangement would be to use the conventional method of approach to the problem, and use the receiver as a fixed i.f. frequency, and tune the converter.

The remaining points to be decided were the choice of the first i.f. frequency, and the overcoming of the receiver oscillator harmonics falling within the bands to be covered. Actually these two problems are tied together to some extent, as by changing the receiver i.f., we also change the receiver oscillator frequency, and with it the position of its harmonics throughout the high frequency spectrum. This problem was solved by considering what frequencies the receiver oscillator could be operated on, which would enable the harmonics to clear the bands covered by the Converter. As a first i.f. frequency of about 10 Mc. had been decided upon as being the best frequency for the Converter, a



VHF CONVERTER

FIG. 1

- C1, C3, C15—5 pF. Ceramicon.
- C2, C4—5-30 pF. variable.
- C5, C10—15 pF. variable with 2 rotor and 3 stator plates.
- C6, C11—0.001 uF.
- C7, C8, C12, C18—100 pF. mica.
- C9—50 pF. (N.P.O.) Ceramicon.
- C13—0.01 uF.
- C14—3-30 pF. mica trimmer.
- C16—15 pF. variable with 1 rotor and 2 stator plates.
- C17—50 pF. (N.F.50)
- R1, R3—250 ohms wire wound resistor.
- R2, R4, R5—50,000 ohms.
- R6—30,000 ohms.
- S1a—e-3 bank 3 pole 3 position Ceramic wafer switch.
- S2a, b—d.p.d.t. switch.
- RFC—2.5 mH. r.f. choke.
- V1 V2—6AG5 pentode valves.
- V3—900V⁺ peanut valve.
- L1—28 Mc. aerial, 10 turns 1/4" diam. #1 long, 18 s.w.g. enamel.

- L2—50 Mc. aerial, 6 turns 1/4" diam. #1 long, 18 s.w.g. enamel.
- L3—166 Mc. aerial, 15 s.w.g. tinned copper, 1 1/2" long overall with small "U" in centre 3/8" high and 1/4" wide, tapped at top of "U".
- L4—28 Mc. mixer, 10 turns 1/4" diam. #1 long, 18 s.w.g. enamel.
- L5—50 Mc. mixer, 6 turns 1/4" diam. #1 long, 18 s.w.g. enamel.
- L6—166 Mc. mixer, 14 s.w.g. tinned copper.
- L7—28 Mc. osc., 10 turns 1/4" diam. #1 long, 18 s.w.g. enamel, tapped at 3 turns from ground.
- L8—50 Mc. osc., 6 turns 1/4" diam. #1 long, 18 s.w.g. enamel, tapped at 2 turns from ground.
- L9—166 Mc. osc., 9 turns 1/4" diam., closewound, 18 s.w.g. enamel, tapped at 3 turns from ground.
- L10—545 Mc. i.f., 33 turns 1/4" diam., closewound, 29 s.w.g. eramel.
- L11—I.F. link, 3 turns 29 s.w.g. enamel.

*Technical Editor: 23 Parkside Avenue, Balwyn, Victoria.

few calculations showed that the following frequencies would be suitable for our receiver oscillator:—

Receiver oscillator 9 Mc.—3rd harmonic 27 Mc., 6th harmonic 54 Mc., 18th harmonic 171 Mc., and all other harmonics would clear the bands.

Receiver oscillator 10 Mc.—3rd harmonic 30 Mc., 5th harmonic 50 Mc., 17th harmonic 170 Mc.

Receiver oscillator 11 Mc.—3rd harmonic 33 Mc., 5th harmonic 55 Mc., 15th harmonic 165 Mc.

From the above figures it can be seen that if the receiver is set so that the oscillator is on any of the above frequencies, oscillator harmonics will be either on the band edge or clear of the band. The decision was made to operate the receiver oscillator on 10 Mc., so that the harmonics could be used to mark the band edges, and therefore convert the harmonics from a nuisance into an asset.

If it is required to measure the band edges with a great degree of accuracy, any receiver capable of tuning in WWV on 10 Mc. is used, and the receiver connected to the Converter varied until the receiver oscillator is heard to zero beat with WWV. This will mean the receiver is set up for a first i.f. frequency of 9.545 Mc. If the receiver has an i.f. of 455 Kc. and the oscillator is operated on the high frequency side of the signal frequency. As very strong signals are received on frequencies as high as 170 Mc., excellent band edge markers are available.

This attack on the receiver oscillator harmonic problem, is the simplest that the writer could find which would be 100% effective, as no amount of shielding or isolation reduced these signals to a negligible amount. The only method not tried was a low-pass filter, with a cut off point at 10 Mc. located in the co-axial line between the receiver and converter, because it was obvious from the tests that this line was carrying the harmonics to the converter. This method was discarded because it had been decided to install a switch in the Converter to connect the co-axial line from the receiver, either into the Converter output, or the normal receiving antenna, and any filter in this line would be in series with the receiving antenna when the Converter was not in use.

CIRCUIT After these preliminary experiments the circuit was drawn and the Converter built, and it was found that there were still a few problems to be overcome, so we will discuss these items whilst describing the circuit.

As can be seen from the circuit diagram in Fig. 1, three separate co-axial inputs are provided for each band, because at these frequencies, beams, ground plane, or vertical antennae would be used, each with its own individual co-axial line, thereby avoiding the necessity of switching the input circuits in the Converter. On 28 and 50 Mc. bands the co-axial lines are matched by a capacity network across the grid coil, and by varying the 3-30 pF. trimmers and the inductances, it is possible

to find values of each which will give the best signal strength for the antenna used.

This will indicate a correct match between the co-axial impedance and the impedance of the grid circuit. These circuits once set require no further adjustment. A similar system was tried at 166 Mc. but it was found necessary to load the grid circuit by tapping the co-axial line up the grid coil, to prevent the r.f. stage oscillating at this frequency. It was also found necessary to have cathode by-passes of 0.001 uF. in both r.f. and mixer circuits to prevent oscillation at 28 Mc. The screen and plate by-passes are connected to the other end of the cathode to that occupied by the cathode resistor and by-pass, for in all v.h.f. tubes, the cathode is brought out to two separate socket pins. The plate of the r.f. stage is capacity coupled to the mixer grid circuit, as experiments showed this coupling to be just as effective as the separate primary winding at these frequencies, and it also simplified our switching. The output circuit of the mixer is tuned to 9.545 Mc., as mentioned previously, and is tuned by a 3-30 pF. condenser. The output link is brought through a co-axial line to a double pole, double throw switch, which connects the co-axial line from the receiver, either to the output of the Converter, or to the normal receiving antenna, which connects to a terminal on the Converter. The second pole of the switch, cuts the h.t. to the Converter when it is not in use.

The oscillator is a grounded plate Hartley and injection into the mixer grid circuit is obtained by taking output from the cathode tap, and feeding it through a small capacity to the mixer grid. The value of this capacity is altered by switch section 51c, as a value suitable for 28 Mc. is far too great for 166 and 50 Mc. Experiments showed that the capacity existing in the switch contacts gave the correct amount of injection, together with the pick-up from the lead running from the oscillator cathode tap into the mixer shield compartment, for 50 and 166 Mc. operation. On 28 Mc. this degree of coupling was not nearly great enough, so the small Ceramicon is switched in to overcome this.

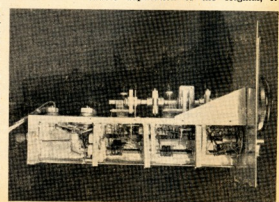
It is opportune at this time to mention several difficulties which had to be overcome before correct operation of the Converter could be obtained. The first problem occurred on the 28 Mc. band, where the oscillator was operated on the low frequency side of the signal frequency, i.e. from 17.455 to 20.455 Mc. A bad case of double spotting occurred, the image occurring about 1 Mc. from the signal. Lack of image rejectivity of the receiver used with the Converter was suspected, but this did not prove to be the reason.

The true reason proved to be due to the following fact—with the converter oscillator on the low frequency side of the signal circuits, images would be received from stations twice the first i.f. frequency away, that is, from 7.910 to 10.910 Mc., which it will be noted, covers the converter output frequency, or first i.f. of 9.545 Mc. This meant that the Converter was receiving the signal in the normal manner, converting it to 9.545 Mc., and then the oscillator was again beating with this signal and re-converting it to the first i.f. frequency when the Converter was tuned away slightly from the signal frequency. Because this first i.f. signal existed in the mixer circuit, it can be seen that there would be no attenuation by the signal circuits (i.e. the r.f. and mixer grid circuits) which would make the image extremely strong. The remedy of course was simply to operate the oscillator on the high frequency side of the signal frequency for 28 Mc. operation.

On the 50-54 Mc. band the oscillator is operated on the low frequency side of the signal, and no trouble was encountered here.

The 166 Mc. band was tackled next, and it was found that the oscillator dropped out of oscillation at about 145 Mc. and could not be coaxed back. From about 120 Mc. the output of the oscillator had shown a decided dropping off in output, so it was decided to use the second harmonic of the oscillator, and run it in the region of 80 Mc. The output on the second harmonic was found to be greater than the fundamental when operated in this manner; that is comparing the output on the second harmonic of 80 Mc. against the fundamental on 145 Mc., which was as high as the oscillator would operate. In addition the oscillator was much more stable, and the all round performance of the Converter was now such, that the three bands tuned just as easily as the normal receiver on lower frequencies.

LAYOUT Up to now no comments have been made on the physical layout of the Converter, although it is quite obvious that the success or failure of a unit of this kind is entirely dependant on it, particularly with band-switching. In case some of the components are not available to enable duplication of the original, it



would be as well to describe the method of setting out, so that the length of all leads will be at a minimum, in the circuits which require them to be that way, and it must be borne in mind that preference must be given to the highest band covered.

The three condensers were fitted with their flexible couplings, and laid out on the table, measurements were then made of the distance between the three bearings, thereby giving the distance between the front panel, and the following two mounting brackets for the condensers. The switch banks were then laid under the condensers, so that the switch connections are directly under their respective stator connections of the condensers, then allowing for the $\frac{1}{4}$ " mounting pillars for the switch banks, the distance between the shield divisions can be obtained. The actual width of the Converter is largely a matter of individual choice, as some may prefer to make the unit self contained, with built in power supply; however the distance from front panel to the dividing partitions must be exactly right if all leads are to be kept to a minimum.

In the illustration it will be noted that there are four main shielded compartments. The rear compartment contains the power input, co-axial inputs for the three bands, co-axial outlet to receiver, which is the rear outlet of the four, antenna terminal for receiver projecting from rear of Converter, air trimmers for 28 and 50 Mc. bands, and finally the d.p.d.t. rotary switch for changing the Receiver from Converter to receiving antenna.

The next compartment houses the r.f. stage, following which is the mixer compartment, with the output coil in the small shield above the chassis.

The front compartment, nearest the front panel, is the oscillator section of the Converter.

In Fig. 2 the drawing shows the essential components in the mixer compartment. The drawing has been made with the Converter in an inverted position, viewed from front to rear, and shows both a plan and elevation. In the plan view, the pigtail of the condenser rotor projects through a hole cut in the chassis, and a heavy 14 gauge wire is soldered to the pigtail at this point and brought up in a curve to provide a point for the cold ends of the coils.

Another hole is drilled in the chassis, directly under the stator tie point, and the lead from there is brought directly on to the wiping contact of the switch

bank. The wire running from the No. 1 contact of the bank to the condenser pigtail, is the 166 Mc. inductance, for even with the reduction of lead length to a minimum, there is still sufficient inductance in the wiring and switch contacts to need only a straight wire to complete the coil. This fact does not appear to be detrimental to the operation of the circuit, as quite a reasonable peak in signal is obtained when the aerial and mixer circuits are tuned.

The grid pin on the mixer socket is located so that this lead is kept to a minimum. If a straight wire is not found to have sufficient inductance, it is advisable to use a hairpin coil here. The 50 and 28 Mc. coils are located where shown, with preference on shortness of leads given to the 50 Mc. band.

These coils are adjusted by holding a soldering iron at the point X, where they connect to the main 14 gauge supporting wire, and drawing the coils in and out, spring fashion, to obtain the correct inductance. Final tuning can then be done by slightly separating the turns of the coils with a screwdriver. These methods of coil adjustment, have

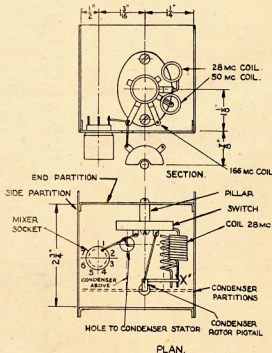


FIG. 2.

proved most effective, and it is surprising the large range of frequency over which the Converter can be varied.

The two side shields of the Converter are removed for wiring and adjustment of the coils in an approximate manner. With the shields in place fine adjust-

ment of the coils is made with the spreading and contracting of the turns by means of the screwdriver.

The steel rod which turns the switch banks was cut off near the clicker plate, and a piece of bakelite rod filed to replace it. This was done to remove as much metal as possible from the fields of the coils. The aerial change-over switch was also controlled by a bakelite rod, for the same reason.

The three variable condensers used were stripped down to give a large degree of band-spreading, and in the finished Converter the following ranges were obtained:—26.9 to 30.4 Mc., 49.9 to 55.2 Mc., 160 to 172 Mc. The oscillator condenser was reduced to one rotor and two stator, and the r.f. and mixer condensers to two rotor and three stator plates. With this arrangement of capacitors it was found that tracking was quite satisfactory on all bands.

ALIGNMENT One of the main problems associated with any piece of equipment such as this, is the problem of finding the band with these frequencies, particularly on 166 Mc. The 50 Mc. band is not so difficult and the 28 Mc. band quite easy with the activity now to be found there. Therefore it is advisable to get the Converter working on 28 Mc. first, following with 50 Mc. and then 166 Mc. The Receiver should be set to 9.545 Mc. as previously described, and the Converter output circuit peaked to give the greatest noise.

An Alignment Oscillator is then set to 28 Mc. and the 28 Mc. band set to the correct setting on the dial. If it is desired to cover the 27 Mc. section of the band, the Oscillator should be set to 27 Mc. and the oscillator coil in the Converter adjusted to bring the signal in at nearly full scale, then with an antenna attached the signal circuits are set for maximum noise, by peaking at the middle of the band. The 50 Mc. band is adjusted in a similar fashion, except that the Alignment Oscillator is adjusted to 25 Mc. and the second harmonic used to locate the band. With the Receiver oscillator set on exactly 10 Mc. as previously described the 50 Mc. point will be indicated by a strong signal being received from the 5th harmonic of the Receiver.

After these two bands have been set up, it is necessary to locate the 166 Mc. band. If a calibrated Wavemeter is available, it is only necessary to tune in one of the Receiver oscillator harmonics and then vary the Wavemeter until the oscillator pulls out of oscillation. The oscillator coil should then be altered until it pulls out at 85 Mc., which should then place the Converter on 170 Mc., as the second harmonic is used. A signal is then tuned in and with the three condenser couplings disconnected, each condenser varied to give maximum gain. It should be noted that it is necessary to connect an antenna during these adjustments, to avoid oscillation in the r.f. stage. Even a short piece of wire is all that is necessary. The frequency is finally checked by line coupling the Wavemeter in series with the

(Continued on page 7)

A Flextal Conversion Exciter Unit

(Courtesy Radio Publications Incorporated)

BY A. K. McLENNAN*, VK3AKM

This unit, of the variable frequency type, first made its appearance in "The Jones Radio Handbook," fifth edition.

The principle of operation is to beat a variable frequency against a fixed frequency and have the resultant "beat" frequency in a useful spectrum. Thus by having a fixed frequency of 4.300 Kc. and beating against it another, variable from 800 Kc. to 550 Kc., the resultant "beat" will be variable between 3.5 Mc. and 3.75 Mc. This will cover half the 3.5 Mc. band, more than twice the 7 Mc. and 14 Mc. bands, and all of the 28 Mc. band. This provides a very useful coverage.

In the unit to be described, the fixed frequency is obtained from a Pierce Crystal Oscillator, using a 6C5 triode, while the variable is from a Hartley type of self-excited oscillator, using a 6F6 as a triode. The beat frequency is obtained from the plate circuit of an 802, this tube being used as a mixer.

In the opinion of the writer, points in favour of this unit are:—

- 1—Stability of a self-excited oscillator is much easier to obtain on the comparatively low frequencies of the broadcast band than on the "Ham bands."
- 2—When using the usual type of v.f.o. on a low frequency, each time the fundamental is moved 1 Kc., the operating frequency is moved by the amount of multiplication. With this unit the output is in the 3.5 Mc. band and moving the low frequency oscillator 1 Kc. only moves the "beat" frequency 1 Kc. This allows for very easy operation when one wishes to QSY.

The constructional details are not in any way complex, all that is necessary is to make sure it is a solid job, putting each tube and its components in a separate compartment, drill "breather"

holes in the top of the cabinet over each tube, with a shield around the grid to the same height as the cabinet, and mount the voltage divider externally, so that there is a minimum of heating of the components. No voltage stabilizer was used in the writer's unit as it was not found necessary. A variation of voltage caused both oscillators to move in the same direction, in this case higher, with the result that the beat did not shift to any audible note.

This test was made using the fourth harmonic of the local b.c. station which is 3.320 Mc. and after allowing the heaters to "warm up" for ten minutes no frequency drift was noticed over a period of forty-five minutes.

A full point to point description of the construction will not be attempted here, as any person intending to build it will have sufficient knowledge to do so from the circuit.

Although not shown in the circuit it is a good plan to place a milliammeter in the plate circuit of the 802.

It will also be noted that there is no h.t. on the screen of the 802. This is quite in order as the screen is used purely as an injector grid.

If the suppressor were used there would be no shield between the injector grid and the plate and this would allow too much of the low frequency to appear in the plate circuit.

The writer has used one of these units for some months now and has found it to be very satisfactory. However there is one point, watch carefully the frequency of the Crystal used, making sure that it will not cause any harmonic of the Hartley to fall in the 3.5 Mc. band in close relation to the beat frequency.

Take the case of a Crystal on 4.68 Mc. When tuned for a beat frequency of 3.51 Mc. the Hartley is on 1.170 Kc. and its third harmonic is also on 3.51 Mc. This is alright if the beat is "dead on" 3.51, but between 3.5 and 3.51 a second signal appears and can cause a deal of trouble.

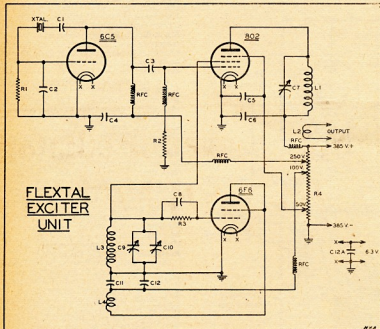
Crystals having fundamental frequencies between 4.3 Mc. and 4.5 Mc. are free from this trouble.

The tuning procedure is as follows:—
(i) Remove the 6F6, and using a Crystal in the 3.5 Mc. band tune the plate of the 802 to resonance. This ensures that the Pierce Oscillator is working and also gives an idea of where the "dip" should be when using the conversion Crystal.

(ii) Replace the 6F6 and remove the 6C5 and with the aid of a b.c. receiver set the padder of the Hartley until the frequency is 3.5 Mc. removed from the conversion Crystal, i.e. with a 4.3 Mc. Crystal set the Hartley on 800 Kc. Do this with the band-spread condenser at minimum capacity, because, as we are using the difference of the two frequencies the unit tunes "backwards," i.e. an increase in capacity results in an increase in the beat frequency.

(iii) Replace the 6C5 and using the conversion Crystal check the band-spread with the aid of a frequency meter, at all times keeping the 802 plate at resonance.

The unit is then ready for work and has plenty of output; in fact, the writer



C1—0.01 μ F.
C2, C3—100 pF.
C4, C5, C6—0.001 μ F.
C7—50 pF. variable.
C8—500 pF.
C9—385 pF. (broadcast).
C10—100 pF. variable.
C11—0.1 μ F.
C12—8 μ F.
C12a—0.006 μ F.

R1, R2—50,000 ohms.
R3—5,000 ohms.
R4—35,000 ohms.
RFC—2.5 mH.
L1—48 turns 22 gauge close wound, 1" diam.
L2—8 turns 22 gauge over cold end L1.
L3—Broadcast coil third of turns removed.
L4—30 turns 28 gauge, sliding over L3.

*Assist. Engineer Station 3UL; Landsborough Road, Warragul, Victoria.

had difficulty in reducing drive sufficiently when driving an 807 on 3.5 Mc.

If there is any doubt about not using voltage regulation on the Hartley, a VR105/30 may be used.

It is the intention of the writer to make this unit a real "Flexal" by incorporating a switch to bring several spot Crystals in, thus having an exciter unit which will be quite versatile.

Before finishing may I be allowed to write a word of advice:—

There has been, lately, some talk about v.f.o.-itis, i.e. running up and down the band and thereby causing quite an amount of unnecessary QRM. Take a tip, and incorporate a switch that will allow the "Flexal" to be brought on independently of the final. This will allow of "netting" without causing QRM.

Band Switching Converter

(Continued from page 6)

antenna lead, and with a signal tuned in, a point will be found on the Wave-meter dial where the incoming signal dips suddenly. If Converter is operating on its correct frequency this should be on the 166 Mc. band. The lead lengths are then adjusted to give alignment.

Another method of finding the 166 Mc. band is by the oscillator harmonic method. This requires an Alignment Oscillator covering the range 15-30 Mc.,

and the principle of operation is as follows:—The Converter is tuned to a 10 Mc. point, which is one of the Receiver harmonics, and the Alignment Oscillator frequency is varied until a beat is heard with the signal tuned in on the Converter, this frequency is noted. It will be found that in the range 15 to 30 Mc. quite a few points will be found. By referring to the table below, the frequency to which the Converter is tuned will be found above the vertical column of frequencies which agree with the points noted on the Alignment Oscillator. It is important that this check be made only after the signal circuits have been aligned, otherwise images will be loud enough to be confused with the signal.

The table only shows frequencies over a limited range, but can be extended by simply dividing the frequencies in the top line by the harmonic required, such as 5, 6, 7, etc. Also the table is not calculated to a high degree of accuracy as this is not necessary to locate the band.

70	80	90	100	110	120	130	140	150	160	170
23.3	26.7	30	25	27.3	30	26	28	30	26.67	28.4
17.5	20	22.5	20	22	24	21.6	23.38	25	22.9	24.3
14	16	18	16.7	18.4	20	18.6	20	21.4	20	21.22
		15	14.3	15.8	17.15	16.25	17.5	18.7	17.8	18.9
					15	14.45	15.5	16.7	16	17
								15	14.55	15.45

In operation the Converter has proved to be an excellent performer, and it has retained its calibration on all bands, whilst the convenience of switching bands has to be experienced to be appreciated.

TECHNICAL EDITOR'S NOTE

It is regretted that owing to the indisposition of one of our draughtsmen, an article on the SCR522 Conversion, scheduled for this issue, was not ready in time for publication.

This article, which will appear in the April issue, should appeal to all Amateurs who are interested in conversion of service equipment.

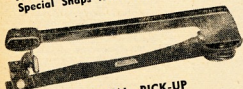
From correspondence received, it is obvious that articles of this nature are extremely popular, and it is hoped to publish a series covering equipment now available on the Australian market.

Any suggestions, data, or conversion material our readers may be able to supply, will help to keep this section of the main technical presentation complete. It is up to you to keep the ball rolling.

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GRID DRIVE

One important question that is sure to come up in the design of a new transmitter is how much power is needed to adequately drive the individual stages. Tube manufacturers have set up driving power figures in typical operating data, but, unless this information is interpreted correctly, the driver stages may be underdesigned. Here is an analysis of grid driving power as listed in tube operating data which is reprinted from R.C.A. "Ham Tips," Vol. VII, No. 3, 1947.

At higher frequencies consideration must be given to r.f. and transit-time loading losses. If the stage in question is to operate above 30 Mc., it is advisable to provide 3 to 10 times the low-frequency driving power figure in order to insure sufficient drive plus a reasonable margin for safety.

After the design has been crystallized and the transmitter constructed, tests and adjustment should be made to insure that the stages are being properly driven. If, as in many cases, an amplifier tube is to be operated with conditions differing somewhat from those published under a set of suggested typical operating conditions, the performance can be checked as follows:—First, load the amplifier to the desired value of plate current. Then vary the grid current slowly (tank circuit tuning remaining unchanged) and note the change in output.

If the change in output is roughly proportional to the change in grid drive, the stage is underdriven. The grid current should be increased until very little increase in output results from a large increase in drive. Under this condition, the stage is said to be saturated. Of course, the maximum rated value of d.c. grid current should not be exceeded.

The penalties for an underdriven stage are low power output, low efficiency, and, if the stage is plate modulated, severe distortion at high levels of modulation. The latter condition will readily be recognised as downward modulation, and, if a pure sine wave is used for test, a decrease in average plate current will be noted as the modulation level is increased.

CORRECT GRID DRIVE IMPORTANT

It is very desirable to saturate amplifiers, especially those driven by a series of frequency multipliers. This comes about because it is rarely possible to saturate frequency multipliers and stay within tube ratings. Consequently, a small decrease in supply voltage on the multiplier stages may cause a large decrease in grid drive and in output of the final amplifier stage. It is important, therefore, that the amplifier grid be saturated so that full output is maintained regardless of variations in supply voltages.

It is possible to overdrive as well as underdrive tubes. However, overdrive occurs rarely. There is little to be gained by over-driving and something to lose. Although there should be no actual damage to the grid or cathode unless the maximum ratings for d.c. grid current or d.c. grid bias are exceeded,

over-driving can cause excess harmonic radiation and low power gain.

Over-driving a beam tube or pentode may cause the screen grid to be overloaded before the control grid. This condition may be checked by metering the screen current to determine whether the screen input is within ratings. Adjustment of both bias and screen voltage may be necessary to allow the tube to be properly saturated and still remain within screen input ratings.

The correct amount of grid drive is an important detail of power tube application. With other conditions properly maintained, it insures high power gain, high plate efficiency, and long tube life.

The value of driving power shown in tube data bulletins includes only the actual power input to the grid plus the power lost in the bias supply. It does NOT include r.f. losses that occur in the tube, tank circuit, socket and wiring, or losses in the tubes, caused by transit-time loading.

It is not feasible for the tube manufacturers to give total driving power figures because there is no way of anticipating conditions under which the tubes will be used. Grid power requirements will vary considerably even in well-engineered designs, and the extreme ranges are quite large. It is better, therefore, that printed specifications indicate only the sum of grid power and bias losses.

Because the driver tube must supply all the losses between its plate and the grid of the driven tube, these losses must be added to the figure given in the tube data for driving power requirements. On an average, in the frequency range up to 30 Mc., the losses are large enough to indicate the choice of a driver tube which has a rated output of about twice the grid power rating of the driven tube.

Driving-power measurements are usually made at 100 Kc.—where r.f. losses in the tube are negligible—by measuring the peak r.f. grid voltage (Eg) and the average grid current (Iav). Then, the relation $Wd = 0.9 Eg Iav$ gives the driving power in watts. This is the figure shown in tube bulletins.

TO WHOM IT MAY CONCERN

Two manuscripts have been received signed by "Old Hombre" and "Vieille Femme". Would the person concerned be so good enough to furnish me with his correct name and address (which is not for publication), after which I can possibly make use of the contributions. —Editor.

CALCULATING DISTANCE OF QSOs.

By F. S. DAHL*, VK7KA (Portable)

Now that v.h.f. and u.h.f. DX is being achieved, it seems interesting to know somewhere close to the mileage achieved in a contact. This can be done simply by trigonometry, and the following method gives reasonable results without recourse to involved data on the oblate spheroid shape of the earth, to the convergence of meridians and the eccentrics of geodesics.

Firstly know your QTH. This can be had by scaling latitude and longitude of your shack from a large scale local map or district survey chart. Since maps are readily available at scales of at least 1" to the mile, a position can easily be fixed within say 15 seconds of arc, which is about 1/4 mile. One minute of arc approximates 1 nautical mile—1.1515 statute miles.

Now suppose Ham A in Adelaide works B in Melbourne. The Cosine of the arc on the earth's surface AB in degrees and minutes equals the sum of two terms.

Firstly, Cosine Latitude A × Cosine latitude B × Cosine Difference in longitude, written—

Cos. lat. A × Cos. lat. B × Cos. diff. in longitude.

The second term is:—

Sine lat. A × Sine lat. B.

Perform these two multiplications then if both stations are on the same side of the equator, add the answers together. This figure is the natural cosine of the angle subtended at the earth's centre by the arc on the earth's surface joining the two stations.

Convert this angle into minutes and this gives nautical miles the stations are apart, and finally multiply by 1.1515 to arrive at statute miles.

If the stations are on different sides of the equator, then subtraction of the terms is necessary. The lesser from the greater.

The following is a worked example:—

Latitude Adelaide S 34° 55' 33"

Latitude Melbourne S 37° 49' 53.5"

Difference in Longitude 6° 23' 27.5"

The first term Cos. lat. Adelaide × Cos. lat. Melbourne × Cos. Difference in Longitude

Cos. 34° 55' 33" × Cos. 37° 49' 53.5"

= 0.318984 × 0.789819 × 0.993786

= 0.643544 using natural cosines.

The second term, Sine latitude Adelaide × Sine latitude Melbourne

= Sine 34° 55' 33" × Sine 37° 49' 53"

= 0.572516 × 0.613340

= 0.351147

Add these two results together—

0.643544 + 0.351147 = 0.994691.

Now in your trig tables look up what angle has a natural cosine of 0.994691, and we find 5° 54' 20" which equals 354.353 minutes. Thus the points taken

(Continued on page 9)

*Lands and Survey Dept., Tasmanian Govt. Service, Box 641D, Hobart.

WRITING AN ARTICLE FOR "AMATEUR RADIO"

It is the purpose of this article to give some "dope" to you, on how to impart your knowledge to your fellow Ham via the medium of "Amateur Radio."

In order to have a magazine, it is evident that editorial material be obtained. Naïve as it seems, that statement carries plenty of meaning, and is not facetious as it may appear.

We like to receive articles with a basically good idea and which usually can be sent to the printer without a mark (correction) on them. But if the idea is good, we will re-write it if necessary and make it suitable for publication.

Out of ten articles received, for instance, there may be three, four or five which are acceptable as they are written (with the exception of some grammatical and technical corrections or clarifications). Occasionally the prize of them all pops up, an article which has been well written, technically and grammatically sound, and—of all things—with a subject that will be of great interest to the majority of Hams, as well as being technically hot. Yes, this sort of article is a rarity, but all connected with the magazine find it fascinating, because we never know when such a prize will show up.

The following remarks are representative of our collective sins as would-be writers:—

1. We type our manuscripts with no extra spacing between lines and/or with

little or no margins between the writing and the edges of the sheet. Manuscripts should be typewritten, if possible (or legibly written), on paper approximately 8" x 5½", with at least 1½" margins, and double spaces between lines. When the article is written, get the XYL to read it out aloud, you will see at once if it has continuity, and is legible to a person other than yourself.

2. We forget to send one or more pages of the manuscript.

3. We overlook the little matter of writing our name and the title of the article on each sheet of the manuscript, very important if the pages should become detached.

4. We fail to number the sheets consecutively, and sometimes place the sheets out of reading order.

5. We fail to include all constants in the wiring diagram. Draw the schematic clearly, mark all constants, don't worry about making a copper-plate drawing, our draughtsmen will do that for you, they know what is required by the block-makers.

6. We send a print taken on a small camera. A reasonable size print is required for blockmaking. If possible send the negative and advise if you want it returned.

THE SUBJECT

Of greatest importance is the subject, if it is a piece of equipment, expressed for the man without a.c. power, that is acceptable. Many Hams have to use

battery power in Australia. The conversion of a piece of commonly available ex-service equipment, a new antenna, receiver, or some transmitting gear, v.h.f. apparatus—the subjects are too numerous to mention.

The whole thing is so simple; merely sit down and think of what you did first in constructing your equipment or whatever it is. Make a few notes. Then write all about it. Take up the second step and write all about it. If there's some connecting point between the two, as there usually is, write it in the second step so as to make a logical connection. Proceed likewise until your story is finished. That's all there is to it. Let the Editor worry about "polishing up" the continuity of composition.

Calculating Distance of QSOs

(Continued from Page 8)

in Adelaide and Melbourne are 354.333 nautical miles apart. Multiply this by 1.1515 and we have 408.01 statute miles.

Reworking the above example by recourse to Napier's Analogy I got 408.07 miles and by vigorous application of the meridional distortion of the earth's surface and the convergence of meridians, the true figure of 408.0617 miles is obtained.

It appears to the writer that some standard formulae should be adopted for arriving at the distances likely to be claimed in v.h.f. and u.h.f. work and the above formulae presents itself in that it is easily followed and worked.

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SUCH NICE PEOPLE

Victorian Divisional Council has ruled that the material contained under this heading must in future be signed by the person responsible for the writing. I, as Editor, feel that at least "Grem-lin" is entitled to make a statement, that I should justify my action in publishing the articles written by "Grem-lin," and further, that the two people, who in the first place were responsible for "Grem-lin's" appearance, should be permitted to defend their action.

I am aware of the identity of "Grem-lin" and suffice to say that his personal integrity is of the highest, his technical ability cannot be challenged, and his writings were inspired by a sincere attempt to clean up Amateur Bands.

Thomas D. Hogan, Editor.

"GREMLIN'S" STATEMENT

Editor, "A.R.",
Sir,

I understand you have been instructed by Council, Victorian Division, to publish my discourses under my call sign. I cannot agree to this for I firmly believe the article would no longer have the same value—however small—in this form.

Technically, I suppose you cannot accept this for publication minus call sign, but I'm sure Council will grant me the opportunity of saying "Au-revoir."

I am told several people have been greatly offended by my writings. To them I most humbly apologize, assuring

you that at all times I criticised various signs, having in mind nothing more than an earnest endeavour to assist in maintaining the high Amateur standard in VK. At no time were my remarks intended to be construed as personal reflections.

Council, in their wisdom, issued this directive with, I believe, the thought "would 'Grem-lin' have the courage to come out into the open?" To my mind, it is not a question of my courage, but one of satisfying the desire of the majority of members. With the ball prettily knocked back into my court, the directive by Council has diplomatically gained the objective—exit yours truly.

Remembering my fore-runner "QRZ" I now silently steal back into the shadows, thanking Hams, one and all, for what to me was a happy association. Especially I thank those many friends who have written words of thanks and encouragement even though many have "had a mention." I have enjoyed it, for I feel I got to know more chaps than when I was a DX chaser.

Cheers and good hunting,

"GREMLIN"

Editor "A.R."

We were surprised, in fact astonished, to hear that Council had issued a directive which prohibits further publication of "Such Nice People" unless the real name or call sign of the author is published with it.

We have since had from the President the basic reason for Council's action, and we believe that "Grem-lin" has been victimised. We further believe that a

fuller inquiry into the matter would reverse the decision made by Council.

As you know we originally vouched for the character, integrity, and the technical ability of "Grem-lin."

"Grem-lin" will not continue his notes unless under a "non-de-plume." He is not contemptuous, deceitful, insincere, vindictive, or facetious.

His notes if published conditionally, as required by Council, would lose their "news value" for we believe an overwhelming majority of readers first turn to "Grem-lin's" column when "A.R." comes to hand. No doubt, as Editor, you are aware of this fact more than we are.

May we ask that you use every endeavour to have Council re-consider the subject, for we believe that the majority of readers desire the continuance of these articles in the magazine.

Assuring you of our support, together with that of many amateurs with whom we have spoken on the subject of "Such Nice People,"

Yours etc.,

HARRY KINNEAR, VK3KN

ARTHUR EVANS, VK3VQ

ANNOUNCEMENT

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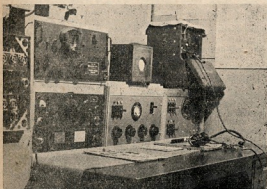
(The G.P.O. is opposite).

TELEPHONE: C. 8113-4.

VK4WI

The Transmitters and Receivers pictured here are operated by the Queensland Division of the Wireless Institute of Australia under the call sign of VK4WI. The persons responsible for the planning and construction of the station are to be congratulated on the completeness of the gear.

The use of three simultaneous channels for transmission of official broadcasts gives the Queensland Division the widest possible cover for the dissemination of its Divisional news.



The transmissions of the official Queensland W.I.A. station are probably well known to most VK4s and possibly to most VKs. Established in its present form shortly after the present Council started operations, it took over after the original set-up provided by VK4HA, and at present under the control of VK4FN it operates on the following frequencies simultaneously: 7100 Kc., 14342 Kc., and 52004 Kc. The station commences operation at 0900 hours each Sunday morning when members are invited to join in the usual round table discussion on current topics and items of news. The news for the preceding week is broadcast at 0910 hours, after which the hook-up takes place, and in all nearly 30 members have at one time or another taken part in the proceedings including several

VK2s. Frequency measurements are provided on nights specified in the Sunday broadcast, and this service is widely used according to operator VK4FN.

As you've probably been wondering what's behind the panels, a description of the station follows. The left hand rack starting from the bottom contains: bottom three panels are power supplies, panel with single knob, the modulators; meter panel; 7 Mc. exciter comprising 6F6 oscillator and 802 buffer link coupled to an 813 with 100 watts input.

The centre rack, again from the bottom is d.c. power supply for relays; two racks containing power supplies; a Jack Field; Power Distribution Panel for 14 Mc. transmitter; Relay Panel; Power Distribution for 7 Mc.; an 27 Mc. f.m.

supply or from a voltage divider network on the main h.t.).

The screen is then "automatically" modulated because of normal variation in screen current under plate modulation.

It then becomes a simple matter to run the tube(s) at the correct—manufacturers—ratings. With excessive (or absence of) drive your screen current/voltage doesn't go off on disastrous excursions.

The writer uses a Japanese 8 Henry 30 mil. choke in the screens of push-pull 807s (with the usual 100 ohm re-

exciter; c.r.o. unit; Modulation Meter.

The right hand rack contains the 14 Mc. equipment, in the usual order; bottom 4 panels, power supplies; Modulator Panel; 14 Mc. exciter made up of 6C5, 6N7, 807 driving an 808 p.a. with 100 watts input.

The antennae used are Verticals, mounted on the one pole. The 50 Mc. transmitter, not shown in the photo, is a DR106, a trans-receiver using a pair of 807s in the final; receiver is a super-het. It is hoped that the next time you listen to VK4FN doing his stuff over this fine set-up you at least will know something of what's going on. The receiving position is self explanatory except to add perhaps that the meter under the Microphone is a power level indicator.

PLATE MODULATING THE BEAM TETRODE

BY E. A. CHARLES, VK5YQ

The good book recommends either feeding the screen via a dropping resistor from the modulated plate supply OR the use of a separate winding on the modulation transformer. Your attention is directed to another method that appeared in an advertisement by Eimac (valve manufacturers) in QST, May 1947. Here the screen is fed via an audio choke (10 henrys or more) from a fixed supply (say, your exciter voltage

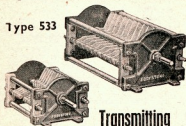
sistors and 0.001 uF. condensers). When originally tried with a single 807, the same amount of audio was required for a given r.f. input for 100% modulation (on the c.r.o.) as when using the screen dropping resistor. However, a slight increase in antenna current was noticed (antenna was a full-wave voltage-fed zep) using the choke method.

Your attention is called to two necessary precautions. Firstly, arrange the switching so that the screen voltage is never on without or before the plate voltage; and secondly, on c.w. it is necessary to short out the choke.

Amateur Radio; March, 1948

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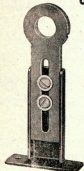
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Transmitting

Type 137

Condensers



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Here are three more of their famous Components for F.M., A.M., and Pulse.

The Cat. No. 137 Condenser is a Split Stator type, suitable for use in transmitters up to 150 watts input. The vanes, of silver plated brass, are rounded and polished and soldered to the supporting bars. The end plates are die-cast aluminium and Frequentite insulation is used.

Overall Dimensions (excluding Spindle) - Cat No. 137. — $4\frac{1}{2}$ " long (less spindle), $3.9/16$ " wide, $2\frac{1}{2}$ " high. Maximum capacity 60 pF per section (30 pF overall). Flash-over voltage, 2,000 R.M.S. (Air Gap .068 ins.) £5/8/5
Cat. No. 533. — $7\frac{1}{2}$ " long (less spindle), $4\frac{1}{2}$ " wide, $3\frac{1}{2}$ " high. Maximum capacity 100 pF. Flash-over voltage, 4,500 R.M.S. (air gap, 2") £7/8/9

brown and fixes to the chassis by means of two screws
Cat. No. 1007 4/7

SLOW MOTION DIAL

Slow Motion Dial fitted with vernier reading device $3\frac{1}{2}$ " diameter scale and large fluted, instrument knob. Reduction ratio, 10-1. This model is finished in matt black with white fillings.
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Compiled by VK3QO, to whom all contributions can be sent

The last v.h.f. wellow meeting of the YKS Division was held on 13/2/48 and was extremely well attended. In the absence of S.N.P. v.h.f. officer, down in Melbourne, the chair was taken by Divisional President, 2VM, and the lecture was a very excellent one by Chas. Higgins (2ALD) and Alex Steen, both of whom have been very active in the moon radar experiments. Everyone was quite surprised at the amount of calculation (both astronomical and otherwise) which was necessary before this project was finally put into action.

Ray Jones outburst on page 21 of February "A.R.", concerning 50 Mc. "dullest windy verbosity" calls for answer. There is far less "tripe" on 50 Mc. than on the lower frequency bands as the boys are too busy discussing special v.h.f. problems; the fact that Ray listens on 50 Mc. proves this. "Absence of c.w." is most probably due to his Rx which (by rumor) is a "smokebox"!! 2RD 2CP 2RD

(Continued on page 23)

Screw Type Neutralizing Condensers (National Type) to suit all triode tubes, Polystyrene insulation. 19/6 each.

FEDERAL, QSL and DIVISIONAL NOTES

Federal President.—W. R. Gronow, VK3WG; Federal Secretary.—W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Wal Ny (VK2XU), Box 1734, G.P.O., Sydney.

Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.
Divisional Sub-Editor.—R. Deal, 209 Oberon Street, Cooberge.

Zone Correspondents.—Newcastle: E. J. Baker, VK2FP, 13 Sturt Street, Hamilton; Newcastle, Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: G. Russell, VK2QA, Canberra Street, Murrumbidgee; South Coast and Tablelands: L. H. Vale, VK2ANN, Box 73, Bega; Southern: E. N. Arnold, VK2QJ, 607 Forrester Hill Ave., Albany.

VICTORIA

Secretary.—A. B. D. Evans, VK3VQ, Box 2611W, G.P.O., Melbourne, Telephone: FJ 6997.

Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents.—North Western: B. R. Minn, VK3BA, Camberwell; Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: B. Seftin, VK3BI, 17a Raglan Street, Ballarat; North Eastern: D. Tacey, VK3DW, 18 Harold St., Shepparton.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official broadcast time.
VK2.—Sundays, 1100 hours EST 7195 Kc. and 2000 hours EST 50.4 Mc. No frequency checks are available from VK2WI.

VK3WI.—Sundays, 1130 hours EST 7195 Kc. Spot frequencies every fourth Tuesday, between 2000 and 7200 hours EST 10 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours EST simultaneously on 7109 Kc., 14342 Kc. and 52.004 Mc. Frequency checks are given two nights weekly, and the hours are announced during the Sunday broadcasts.

VK5WI.—Sundays, 1000 hours SAST on 7168 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

From VK6WH.—Sundays, 0930 hours WAST on 7168 Kc. No frequency checks available.

VK7.—Second and Fourth Sundays at 1030 hours EST on 7174 Kc. No frequency checks are available.

GERMAN CALLS

It has been learned that the American Occupation Forces in Germany are now being assisted with new prefixes. Those so far known are:—
DA3—Stuttgart;
DA2—Munich;
DA4—Hamburg.

EXTRACTS FROM I.A.R.U. CALENDAR TO THE FEDERAL EXECUTIVE

W.I.A. Convention Proposal Submitted to

At its 1947 Annual Federal Convention the W.I.A. directed its Federal Executive to approach I.A.R.U. and "seek international member-society comment on the desirability of subdividing the high frequency amateur bands into phone and c.w. sections." An appended note by the Society's Secretary mentions, "We feel that any such subdivision should be on a voluntary basis rather than being achieved by government regulations in each country."

A world-wide agreement, or series of regional agreements on the division of the bands into phone and c.w. would indeed be a marked step forward in Amateur Radio. There are many practical problems which must first be solved, however, and we would be remiss if we did not mention them. Perhaps the principal difficulty is the differences in attitudes shown by the amateurs of various countries toward the two modes of emission. For example, in many countries the interest seems to run about two-thirds c.w., one-third phone; but in some countries such as those of Latin America, the interest is about 80 per cent. phone. Then, there are technical aspects of the problem—propagation conditions and, to some extent, power permitted amateurs in each country.

Another difficulty is the fact that under international and regional treaty allocations, the available widths of amateur bands differ in various countries; this is especially true under Atlantic City as concerns the 7 Mc. band. Finally, the successful working of any such agreement, voluntary or backed up by regulations, depends entirely upon whether UNANIMOUS CONSENT and OBSERVATION of the agreement can be had. One small group of amateurs failing to observe an otherwise-agreed schedule would seriously spoil the whole plan.

In a practical approach to this problem, we must revise our thinking that it is simply a matter of making a choice between (1) phone and (2) c.w. In a purely technical matter arising from the great number of U.S. amateurs, there must be three classifications:—
1.—U.S. phone;
2.—Non-U.S. phone;
3.—C.W.

Because the frequencies assigned to phone in the United States are well occupied with signals of

QUEENSLAND

Secretary.—R. Thorley, VK4RT, Box 6383, G.P.O., Brisbane.

Meeting Night.—Last Friday in each month at the State Service Building, Elizabeth St., City.
Divisional Sub-Editor.—H. T. MacGregor, VK4ZU, "Moquet," Eildon, Winton.

SOUTH AUSTRALIA

Secretary.—E. A. Barber, VK5MD, Box 1234K, G.P.O., Adelaide.

Meeting Night.—Second Tuesday of each month at the Waymouth St., Adelaide.
Divisional Sub-Editor.—W. W. Parsons, VKPS5, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—E. Court, VK6KAG, Howard St., Perth.
Meeting Night.—Second Monday in each month at the Builders' Exchange, St. George's Terrace, Perth.

Divisional Sub-Editor.—R. W. S. Hugo, VK6KW, 8 View St., Subiaco.

TASMANIA

Secretary.—J. Brown, VK7BI, 12 Thirza St., New Norfolk, Telephone: 122.

Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor.—W. W. Watson, VK7YY, 12 Cromwell St., Battery Point, Hobart.

Northern Correspondent.—C. P. Wright, VK7LZ, 3 Knight St., Launceston.

considerable strength and the frequencies are therefore "monopolized." It has been the custom of non-U.S. phone amateurs to operate on the 7 Mc. bands. Usually they locate themselves just below the United States assignment, as a matter of habit as well as indicating a desire to remain as close as possible to U.S. phone bands. C.w. band contact may be facilitated. The existence of these non-U.S. phones has a considerable effect on the use of the 7 Mc. bands, and the use of these channels they occupy are not useful at all for c.w. work. In any band division, then, if we chart c.w. and U.S. phone bands, we find that there is an intermediate area of indeterminate width which will be occupied by non-U.S. phone stations. In I.A.R.U. terms, this area is the "intermediate band-handling" on frequencies of international range. It is obliged to take into account the effects of non-U.S. phone stations operating there (by U.S. regulations) is technically solely a c.w. band.

All these factors are well appreciated by planning groups of member-societies which have studied the international effects of our bands as between phone and c.w. I.E.R.O., for example, gave study to this general problem some months ago. It published in the December 1946 issue of QST and forwarded a proposal to I.A.R.U. The Headquarters asked V.E.R.A.M. if that society then or then considered a formal proposal for the Calendar, because of the imminence of the Atlantic City Conference. V.E.R.A.M. has taken the matter the highest step forward in international band-handling. Its Council has established a Code of Practice Committee having immediate duties in studying amateur use of bands on an international basis, and making specific recommendations for band divisions and use between phone and c.w. Realizing that it is more than a one-society problem, B.S.R.G. has written each of the European societies to ask them to send a representative to form a regional study group. If the responses are encouraging, B.S.R.G. expects to convene a meeting of representatives of European and U.S. societies to discuss band-handling. Any specific recommendation, or anything coming out of such a meeting will be placed before I.A.R.U.

Headquarters will be pleased to have the further comments of member-societies on the W.I.A. suggestion.

CONTESTS

At the same meeting, W.I.A. discussed the matter of world-wide contests sponsored by individual member-societies. It was noted there had been some discussion of this matter, but no formal meeting of the societies of the world sufficiently far in advance of the contests to permit amateurs generally to become acquainted with the proposed contests. It is W.I.A.'s suggestion that member-societies, when planning operating contests of international scope, arrange to relate their plans to the W.I.A. as well in advance so that they may be picked up

FEDERAL

HAMS WHO LOSE THEIR LIVES DUE TO SERVICE

VK2AIB—G. C. Curle	.....	Unknown
VK2HQ—F. Easton	.....	R.A.A.P.
VK2JV—D. Roberts	.....	A.M.P.
VK2VJ—V. Jarvis	.....	R.A.A.P.
VK2YH—W. Abbott	.....	R.A.A.P.
VK2YH—D. H. Smith	.....	A.M.P.
VK2YH—J. McCandlish	.....	A.M.P.
VK2IR—J. E. Mann	.....	R.A.N.
VK2NG—N. E. Ginter	.....	M.S.C.
VK2OR—D. Orr	.....	R.A.A.P.
VK2OW—J. L. Templeton	.....	R.A.A.P.
VK2PW—J. L. Colthrup	.....	R.A.A.P.
VK2QV—P. P. P. P.	.....	A.M.P.
VK2SR—S. W. Jones	.....	A.M.P.
VK2SW—J. A. Barrage	.....	R.A.A.P.
VK2VE—J. E. Soudan	.....	R.A.A.P.
VK2RD—D. Laws	.....	A.M.P.
VK2PR—R. Allen	.....	R.A.A.P.
VK2AT—A. A. Atkinson	.....	A.M.P.
VK2GT—G. Phillips	.....	R.A.A.P.
VK2J—J. Mann	.....	R.A.N.
VK2GR—H. G. R. R.	.....	R.A.A.P.
VK2GJ—J. E. Goddard	.....	R.A.A.P.
VK2KS—K. Anderson	.....	A.M.P.
VK2PL—L. P. Flynn	.....	A.R.P.

The above names and details have been received by Federal Executive. Anyone knowing of any name missing included in the above list or errors therein should communicate with F.E. at the earliest.

ANTARCTIC EXPEDITION

Federal Executive are pleased to announce that arrangements were made (and finally sealed at the last minute) for the licensing of an Amateur on the H.M.A.S. "Watt Rarr," the vessel being used by the Australian National Antarctic Expedition. The vessel will be commanded by Mr. J. M. McCarthy. The W.I.A. arranged the loan of a Type 3 Mark II and crystals of 7019, 7027, and 7186 Kc. The station will operate on 7 and 14 Mc.

The Federal Executive are making arrangements to have QSL cards printed and these will be sent out on the vessel's return to the mainland. Please send your QSLs care of VK3UM. QSLs will be sent out only on receipt of incoming QSL. All Antarctic stations must be advised of operating practices and keep v.f.o.s off the frequencies above when the station is in operation. The first contact honors go to VK3CH, Chel.

CERTIFICATES

The various certificates mentioned in these notes last month are now completed and outstanding DX certificates for the 1946 and 1947 Contests will be sent to be issued. There are some 300 to be made out and signed so please have your name on a while longer. Due to postage difficulties, certificates for each Division will be sent to the Divisional Council for issue to the winners.

Amateur Radio; March, 1948.

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and published by the official organs of other societies. In this connection, "I.A.R.U. News" will be glad to receive and publish any such contest announcement material.

MEMBERSHIP CHANGES

The Headquarters feels it necessary to delete from the membership list the name of the Experimental Radio Society of Egypt. No word has been received from the society since the war. Correspondence to the pre-war address has been returned. Allied servicemen in Egypt, requested by Headquarters to trace the society's whereabouts, have not been successful. The Headquarters is obliged, therefore, to drop E.R.S.E. from the membership roster. We are delighted to announce the re-establishment of our Netherlands-Indies member, N.V.I.R.A. Active in the re-organization have been J. A. M. Willems, PK1EL, A. te Hart, PK1RI; L. J. Moolis, PK1EL, P. W. G. Pool, PK1PD; and J. W. A. Micola, PK1MF. An office has been established, with mail address as Post Box 19, Batavia (Java). The society is obliged to report, however, that a temporary government measure exists which prohibits operation of amateur stations in the Netherlands Indies.

As a result of ballot taken by Headquarters three societies have been admitted—namely, the Chinese Amateur Radio League (C.A.R.L.) as the member society for China; The Radio Club de Chile (R.C.C. Chile) as the member society for Chile; and the Radio Club Paraguayo (R.C.P.) as the member society for Paraguay.

Speakers on behalf of the other members of the Union, a number of whom expressed sentiments of congratulations, the Headquarters extends to the R.C.C. Chile and R.C.P. a cordial welcome and hearty good wishes.

The I.A.R.U. section in South Africa has changed its name and address and is the South African Radio League. The League felt that the word "relay" in its name did not properly reflect the full scope of the society's aims.

The S.A.R.L. writes as follows:—"Our Council is perturbed at the number of amateurs in different parts of the world who have received an unfair advantage over the law-abiding amateur. It is felt that such amateurs should be disqualified from obtaining such honours as W.A.C. Certificates, DX Contest Club and so forth.

"The South African Radio League therefore proposes that any amateur who is deemed to be guilty of such unfair and other illegal practices should be disqualified from receiving W.A.C. and other I.A.R.U. awards for a period of twelve months from the date of the offence, and that all assistance to the date of the said disqualification should be considered as void."

S.A.R.L. has decided, in correspondence with the Headquarters, that this should be a subject for society comment but should not, at least at present, constitute an official proposal. The Headquarters would be glad to hear from additional member societies in this respect.

NEW MEMBER PROPOSED

The Icelandic Radio Amateur is the national amateur society for the Republic of Iceland. It has a total membership of 214, including all licensed amateurs, no number only. The office address is P.O. Box 1080, Reykjavik. Membership dues are 24 kronur per year, equal to 3.70 dollars in U.S. currency. Present officers of the society are: E. Palsson, President; S. Blarnason, Vice-President; I. Mathilsson, Hon. Secretary; E. Hagan, Hon. Treasurer.

In addition, there are three directors. The society maintains liaison with government authorities, and has obtained the license of amateur licensees. At present, operation is permitted on amateur bands above 14 Mc., similar in width to those of the Scandinavian countries. The society publishes a magazine, "Útvarpsíðindi," and maintains a QSL bureau system for its members.

The Danish section of I.A.R.U., in past years has claimed representation on behalf of Iceland but E.D.R. has informed the Headquarters that it now fully supports the membership application from I.R.A.

Federal Executive of the W.I.A. have recorded an affirmative vote in this regard.

CHANGES TO CALL SIGNS, ETC.

Alterations:—

- VE2ABZ—W. F. Babin, 6 Leppington Ave., Eastwood, N.S.W.
- 2ACU—R. Pike, c/o. Coomaballe Ice Works, Castlereagh Street, Coomaballe.
- 2AGJ—T. E. Ham, 86 Hampden Court Road, Carlton.
- 2AJY—J. R. Jarnan, 33 City Road, Chippendale.
- 2BA—S. S. Moys, P.O. Box 72, West Wyalong.
- 2BR—D. W. Reed, 69 Pacific Highway, Wairara.

2HU—M. J. McDonald, 40 Caraballa St., Kiriabilli.

2KN—C. F. Peddell, 107 Kemp St., West Kempsey.

2LA—L. E. Adams, 10 Norman St., Wollongong.

2LB—S. Borys, 113 Darling Point Rd., Darling Point.

2NE—N. L. Ascher, 16 Coronation Ave., Moanman.

2NZ—R. B. Duffy, "Bannerman Court," Bannerman St., Crowsnest.

2YW—V. H. Wilson, Wilton St. and Maxine Pde., Maroubra.

VK3KA—A. H. Hughes, 90 Kennedy St., Castlemaine.

2ANC—N. H. M. Chapman, Gibson St., Trafalgar.

2ASD (in lieu VK7KA)—O. S. Dahl, c/o S.E.C. Kiewa.

3FW—W. A. Fultou, Eunzie St., North Balwyn.

3FY—W. G. Clark, Wallace Ave., Hughesdale.

3IQ—K. J. Bell, Carlsbrook, via Maryborough.

3IU—T. J. Conkey, 24 Wild St., Regent.

3IX—C. J. Reed, 750 Marky St., West Footscray.

3JW—E. W. Cranch, 107 Green St., Richmond.

3MR—M. R. Campbell, Clyde.

3OD—F. C. Deaman, "Titings," Lismore.

3UV (in lieu of 3NF)—G. S. Bernore, 22 Kiewa.

3WD—W. D. Mather, 30 Carroll Cres., Gardiner.

3XV (in lieu of VK3CA)—C. R. Anderson, 33 Holloway Rd., Sandringham.

VK4VK—R. A. J. Taylor, c/o Station 4VL, Alfred St., Charleville, Qld.

VK5BD—D. R. Briggs, Jervie St., South Plympton.

5CG—C. G. Cleveland, 34 Stanley St., Leasbrook.

5CK—K. Micklethwait, Thirlfield Ave., Sunbury.

5TL—T. Leidler, Jetty Rd., Large Bay.

5WK—A. E. Prince, Camroe Ave., Plympton.

6EJ—A. V. Treddler, 22 French Ave., Merredin.

6GJ—W. Grogan, Port Hotel, Carravon.

6RB—E. F. Robins, 32 York Rd., Northam.

6RD—R. B. Harvey, Sackville St., Scarborough.

7K7—L. W. Edwards, Strickland Ave., Hobart.

Cancellations:—

VK2AMH has been cancelled—F. J. Carey, 35 Ridge St., North Sydney.

VK7JW—J. C. Wallis (deceased), Marlborough St., Longford, Tasmania.

New Issues:—

VK1AA—E. McCarthy, H.M.A.S. "Wyatt Earp," National Antarctic Expedition.

VK2DE—A. C. B. McCartney, Mulgate St., Narrabri.

2KR—A. F. Stoker, 209 River St., Ballina.

2MK—E. J. Kerkin, 33 Norfolk Rd., Epping.

2MF—C. M. Riser, 11 Albert St., Ballina.

2NV—D. G. Gilder, 17 Onslow Ave., Elizabeth.

2OL—L. I. Squire, Karuah St., Thornton (Port).

2SB—R. W. Chaplin, 89 Ray Rd., Epping.

2SC—S. M. Waters, 8 Short St., Gladstoneville.

VK3AC—D. A. Greenham, portable of VK3CO.

3CW—K. J. Millbourn, 5a Melville St., Hawthorn.

3IY—A. P. Thornton, 28a Maud St., North Balwyn.

3JM—M. D. Lodge, 5 Birdwood St., North Essendon.

300—G. E. Wardle, 158 High St., Ashburton.

30X—J. W. Watson, 137 Dundas St., South Preston.

3PV—D. B. Shaw, 682 Glenhunting Rd., Glenahunting.

3UB—H. M. Bridge, 144 Crip St., Hampton.

3UB-H. L. Byrne, 21 Wolseley Ave., Brighton Beach, Vic.

3VB—Mrs. C. M. Adams, 7 Wellman St., Box Hill.

VK4MP—Rev. M. C. Pay, 186 Chatsworth Rd., Coorparoo.

4RI—W. W. Newman, Collingville.

4SF—S. J. Ford, 75 Station St., Roovall.

VK5CB—C. A. Doddridge, Keynton, S.A.

4CZ—R. I. Scott, 82 Palford Rd., Prospect.

3LA—R. N. Lane, 3 Farnh Place, Redfern West.

VK6PF—F. H. Walfield, Koonjup Rd., Katanning.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

DEM5753 ex-03FBA, Waldemar Kehler, 24b, Huisum-Rond, Kampelung-Land 17, Schleswig-Holstein, Brit.-Zone, Germany, in requesting confirmation of a report, states, "QSLs are the only connection of German Amateurs with our friends abroad."

"I think we have to wait long time for restoration of our licenses and would much desire to exchange magazines, stamps and friendly correspondence with any amateur station."

Advice from Belgium notifies the death, on 1st November, 1947, of Maurice Caron, 30 rue Thiers, Boulogne-sur-mer, France. Maurice was a short-wave listener of many years' experience and was known throughout the amateur world.

Barry Clarke (VK2ADR), of Broken Hill, has returned to the VK1 area as from January. He is now located at "Warrandyte," Karung Ave., Mirrean, via Edwardstown, S.A., where he will operate under the call sign of VK6BS. VK5 and VK3 QSL Managers please note.

The C.A.W.—national society of the Czech Amateurs, wishes it to be known that a pirate station is very active on all the amateur bands using the call sign OK3AA. It is believed that the pirate station is located in Czech Republic.

The QTH of the re-established Amateur Society in Hong Kong is H.A.R.T.S., P.O. Box 541, Hong Kong.

J.G.J. G. Chiffey, advises that the following stations are operating in Kiriwa:—

10—U.S. Army Radio Station, APO842, New York.

VE6VY (in U.S. Army Radio Station, APO842, New York).

10AR, QSL via A.R.I. (He is ex-11AHC/16 and ex-17AA.)

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MEDAB (in operation shortly) Eritrea Signal Squadron, M.E.L.F.S.
ET1J2 (QSL via R.S.G.B.)
ET1J2 (now QRT) was actually in Eritrea and NOT in Ethiopia. He did not and will not QSL.
HE1LO located at various towns in Liechtenstein, is quite authentic and is the portable station of HB9EU, Ralph Graeb, Farberstr. 37, Zurich 8, Switzerland. He was touring Liechtenstein during the latter months of 1947.

For the Philatelists—**CE4HP**, Sergio Lairain, Casilla 27, Parray, Chile, South America.
Vic Shillecock (VR2VS) hopes to get active on 50 Mc. from Canberra very shortly, and is removing gear from his home QTH in Sydney for the purpose.
ON1HC is on 3515 Kc. daily from 0500 to 0700 GMT endeavouring to contact VKs and Zls.
 The following is an up-to-date list of licences in **VE1J**—**VR3AD**, **ZAN**, **2AO**, **2AP**, **2AQ**, **2AT**, **2AU**, **2AY**; all active on 28 Mc. and all located at Nadi Airport; **2AR** Laucala Bay, **2AX** Laucala Bay, **2AW** Suva, and **2AS** the QSL Manager, Stan Mayne, Box 184, Suva.

Jim Webber (G5UBP) left Sydney for VE/W on 4th February and will be on 7, 14, 28 and 50 Mc. Jim's hope is to be on the 28 Mc. band on the usual DX whilst he is around the Islands. He will be able to reply to 50 Mc. calls on any of the four bands if anyone desires to contact him and a creative contact. He will be returning to VK from W/VE in a few months and the same opportunities will again exist. Jim is always on the Ham bands around 1000 GMT.

NEW SOUTH WALES

NEWCASTLE ZONE

2BZ is doing good work on 50 Mc., and worked **2U1**—225 miles distant. **2AHA** mainly on 14 Mc. **2Cs** up to 50 Mc. keep up, work in the 28 Mc. band. **2BZ** has new shack and promises himself a 28 Mc. rig. **2TE** with a new welded rack is going into modern **2AFS** awaiting from series to plate modulation. **2AGD** waiting for a new rig. **2BZ** for the band to really open. **2ANG** going back from v.l.o. to crystal. **2ADZ** in Maitland is putting new signals into Newcastle on 28 Mc. **2BZ** to **2IG** on winning 14 Mc. section of the VK DX Contest. **2AMM** is on 7 Mc. from new QTH. The **2YL** is interested in radio too. **2MC**, a new Ham, is putting out a nice signal on 7 and 14 Mc. **2CI** helping the new boys a lot. **2AMU** getting some fine DX. **2IP** has been away on holidays.

WESTERN ZONE NOTES

Congratulations to Gordon and Dr. Freddie of Dubbo with new A.O.C.P. will both be heard shortly. **5H** is less revamped. Receiver still in members. **5WH** has one of the above mentioned **BK3848**. V beam still won't work. **2NS** also has a new receiver and a W.A.C. in two hours on 14 Mc. **2ACU** also has a new receiver; where do they come from? **2ACU** operated portable in the mountains while on holidays. **2AMK** has completed the shack and is resting on his laurels. **2HC** has been reported on 7 Mc. **2TG** and **2AL**, of Orange, are both plugging away at DX. **CA**, an old timer, has been heard again. **2IG** still on 14 Mc. **2BZ** working 7 and 14 Mc. bands with varied V.D.X. in the trees. **2AMK** has revamped the rig and has a new ARS. **2QA** has a new spec. (no one would have known). **2BZ** allowing two weeks of his holidays to complete receiver. **2LY**, with 50 Mc. beam on VKs, wants one to go up with gain. **2AFO** going on 50 Mc. also. **2IZ** still on the v.h.f.

COALFIELDS AND LAKES ZONE

2MK broke out on 7 Mc. ago. **2C** could the propositions be reversed. **2PZ** used his holidays to re-organise shack; with **2XT** toured Newcastle shacks collecting money for **2PZ**. **2PZ** is now "crushing" tritrit defeating attempts to make **2S** Mc. **2KZ** firmly convinced no Hams in Victoria on 28 Mc. **2C** has been nearly prepared to give up permit of W.A.S. **2ADZ** appearing on 28 Mc. from 14 Mc. after working with **2TY**, both complain others are using their calls. **QSL** can be collected. **2OC** busy on new 28 Mc. rig with special allowance for 21 Mc. **2RUF** with a new four element beam on 50 Mc. turns it on the line transformers to turn them up. **2AM** busy with new receiver. **Zone Officer** (**2YL**) is laid low in hospital and all members hope for a speedy recovery. **2ADT** back after six weeks holiday; unlike the DX, the good ones all got away.

VICTORIA

The monthly meeting of the Division was held at the Melbourne Technical College on the 4th February. Visitors introduced and welcomed were **2EB**, **2FG**, **5ME**, **5CU**, and **GDZ**.

A letter of appreciation by Mr. Marshall, it was decided to develop an informal discussion group at the Institute Rooms to take place before each general meeting. The first of this gathering proved to be most successful and was enthusiastically received by those members who remain in the City on the night of a general meeting.

A brief explanation of the items which had been accepted for the Agenda of the State Convention was given by the President, Mr. Cunningham and further items were then submitted by members.

A suggestion of showing some mark of respect at the general meetings for any Amateur who has passed on was sympathetically received and the Federal Councillor was requested to refer this matter to Federal Executive for consideration.

Mr. Neil Smith was introduced and provided an interesting demonstration by the use of a graph to be used in determining ionospheric predictions. It was hoped that Mr. Smith would be able to go more fully into the subject for the benefit of members at some future meeting.

The State Convention, at which approximately 50 members were in attendance throughout the day's proceedings, was held in the Institute Rooms at Queen Street, Melbourne, on 7th February. The Divisional Zone being represented by Mr. Bruce

Mann (3BM) from the North Western Zone, Mr. Howard Womersley (5YV) from the North Eastern Zone, Mr. W. W. Wootton (3LW) from the Western Zone, and Mr. W. Ross (3UT) from the Eastern Zone.

Other members from the Council included W. J. Kinella (3AKW), Luback; H. B. Dobbyn (3MF), W. J. Kinella (3AKW), W. J. Kinella (3AKW), S. Vincent (3AGV), Colac; R. Tandy (3BX), Colac; M. Folie (3JGV), Mildura; W. B. Barber (3DX), Bairdgoon.

Mr. R. Cunningham (3ML) presided and addressed the Convention; "the object of the Convention is to help the 28 Mc. band to develop a policy for the following year, so that Council could plan and formulate a policy for the future. Then considering the 28 Mc. band as a Divisional Zone, a strong country membership, the Zones should have an opportunity of voicing their opinions on administrative matters and it is at these Conventions that the representation can be made."

The Agenda as presented for discussion contained 28 items and of these, the items relevant to the Zones were grouped under the heading of discussion and representatives spoke in turn on behalf of their Zone.

A review of these discussions has been the decision to form a new Zone within the Division and it is to be known as the Far Northern Zone. This Zone is beyond the line from Pinaroo to Nyah and takes in Mildura and Ouyen.

From the comprehensive list of items debated, several of which have been put forward for action on the Federal Agenda and a recommendation made that the attention of the Federal Convention be invited to the Editor of QSL, 23rd April, 1948.

All remaining items were fully discussed to some length and at the close of the debate on all matters the Convention terminated at 6.45 p.m.

Immediate details of the proceedings and motions were fully broadcast from 3WL on the Sunday morning broadcast of 15th February for the interest of all members.

Following the more serious side of the Convention the first "Main Fest" was held the next day, Sunday, 8th February, at the Yarra Hotel, Melbourne, and with Melbourne weather at its best for this social occasion members and families enjoyed the outdoor and indoor sports. The day was a footnoting and novelty races were held for the children and adults, handsome prizes being provided.

At the January meeting of the Committee, activities during 1948 were discussed generally. Among the suggestions put forward was a request for a practical summary of the public information prediction data, to be presented in a form, which if not embracing all conditions to be met, which will be a most useful and practical and readily assimilable form for amateur use. T.A.C. expect to be able to supply this information during 1948, both for publication in the magazine and for broadcasting from VK3WL.

V.H.F. Group

At the January meeting of the group VK3KI and VK2XP were present as visitors, and were able to give an outline of v.h.f. activities in the N.S.W. Division. VK3EJ brought a report on the progress of SCR522 receiver and this was examined with great interest by those present. The v.h.f. group meets on the second Wednesday of each month.

Receiver Group

At the January meeting of the group tracking problems in superheterodyne receivers were discussed. The use and limitations of various tracking formulae were commented upon and Mr. George Neilson described suitable practical means of adjusting receiver to give accurate tracking at three points in the tuning range. Tracking problems at very low and very high frequencies were discussed and the necessity of using a variable capacitor coil to suit the antenna was mentioned. The receiver group meets on the fourth Wednesday of each month.

FOOD FOR BRITAIN FUND

At the last general meeting of the Division, a collection for the Appeal was made and the sum of £10/5/11. This brings the total receipts to 3/- under £250 since the Appeal commenced in April, 1947. Total expenditure on food parcels amounts to £207/10/11, leaving a surplus of 250 pounds. The Fund is still in hand with a balance of £48/7/1. The Committee wish to thank G.C.N. and V.H.F. for their generous donations. What about some donations from the Eastern Zone, Graham?

CENTRAL WESTERN ZONE

Zone hook-up last month was notable for its short and snappy procedure. Apparently there was a State Convention in Melbourne and in Melbourne stations were on, 3EP and self, so not too much information came from that. The big news of the last month was that the 28 Mc. band was being used in Hornham with their reception of 50 Mc. signals from K10 and W in addition to ZL. The most surprising part of it was that STA was only using a plane antenna, two way long straight to his antenna.

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terminal. 3YQ uses a Kingsley Converter ahead of an ART and Claude a double conversion super 6AK5 to a 6CH35 to 10.7 Mc. then to 455 Kc. Claude is also building a 100 watt Transmitter for 50 Mc. using 829 so should be in the running when the band comes good. Ye scribe is getting excellent reception also from the local doctor's diathermy machine about half a mile away.

There is no doubt that fashion moves in circles. Heard 3YQ from his new QTH busy working 30X one Saturday night, and was amazed when Kevin mentioned he was using an 8406 in a Hartley oscillator with 6 watts and, believe it or not, LOOP modulation. ("Greenline" please note what you missed). However the quality was better than other heard on the band.

5XQ has erected a three element beam for 50 Mc. and is building a transmitter and converter for that band. 3YQ has a self-excited job on 50 Mc. and reckons to work at least into Maryland.

3DP is busy with a new shack, and when everything is finished and Jim gets his AT5-ARS combination going he will have an f.b. set-up. 2AKP is at present bogged down with power leaks; tough Keith when you help make the juice that makes the GRM. However Stavell is due for further GRM as two of the locals are busy sweating.

Apart from the beautiful diathermy notes heard on 50 Mc. ye scribe by some outstanding miracle worked LU4DXN on 14 Mc. so after nearly 10 years trying has at last made W.A.C. incidentally LU4DXN had I suppose what one might term a 1925 note. Well going that's all for now—see you next hook-up—Sunday, 7th March, 10 p.m. on 7050 Kc.

NORTH-WESTERN ZONE

Delegates from the N.-W. Zone got together at the State Convention and settled our difficulties re transport and communication between the widely separated ends of this large Zone by dividing the Zone into two. The new "Far North-Western Zone" is beyond a line from Pinaroo to Nyah and takes in Mildura and Ouyen, Renang, Swan Hill and Sen Lake are the main centres in the N.-W. Zone, not to mention Queanbeyan!

3YB has had an operation followed by a couple of weeks in hospital, but is now home and was last reported in bed building a v.f.o. 30A is working DX on c.w. like nobody's business. The rotary works OK. Is busy with a new receiver and intends to rebuild the modulator. 3CE is at Portland with family enjoying a well-earned holiday. 3LU has moved to Qambscott for some months but has not got on the air from the new location so

far. 3IHR is rebuilding. There was much Ham talk when 3LU, 3BRM and 3IHR all got together unexpectedly in Qambscott P.O. recently. Clyde Gray (3rd op. of 3YB) now has a ticket and his call sign is YK3ACE. Associates, Bud Page and Wal Loveland, are hard at it practicing the code. 3BMT (with NYL and three junior ops) is at Edithvale on holidays. Is working on design of triple detector crystal-controlled single-sideband receiver. Attended the State and Maffra Conventions recently.

QUEENSLAND

Nominations of office-bearers for the ensuing twelve months formed the main item of business at the January general meeting of the Queensland Division. The President (4AW) occupied the chair, with Secretary (4RT) and Treasurer (4ES) also on the official date. Mr. P. Kelly (4KB) who has held the position of Federal Councillor for the past twelve months advised the meeting of the invalidity of the election of the Federal Delegate made at the previous meeting, a mistake due to the fact that no Federal Constitution was at that time in the hands of this Division. Nominations were again called for and F. M. Nolan (4FN) and H. MacGregor (4ZU) were elected. A ballot will be taken to determine who represents this State at Melbourne at Easter.

The President then called for nominations for office-bearers and was speedily nominated for the chair once again by 4RE, seconded 4FN. For Vice-Presidents, 4KB was nominated by 4FN and seconded 4YB. 4YB was nominated by 4KB and seconded 4IHR. The retiring Secretary 4RT had the pleasure of seeing 4XG nominated for his position by 4HR, seconded 4KB. For Treasurer, the man nominated was 4SV, who like 4XG, is a newcomer to the Council, nominated 4KB, seconded 4XG.

It was decided to create another position in the QSL Department, making separate jobs of inward and outward cards. Those nominated were 4EN and 4RC, while for Library Manager 4LT and 4WP were nominated. 4LT later declining because of election for another position—that of Publicity. Country men who look forward to VK4WI broadcasts will be pleased to learn that 4FN was nominated for the job of Station Manager. As before, Country Representative will be 4SN, and "A.R." Sub-Editor, 4ZU. Another new face at the Council table will be 4YB, the new traffic man, recently returned from Gasm. 4RT moved that a new post be created for an Associates' Member Representative and the following were nominated: 4KP, 4YB and Mr. K. Robinson. The attendance at the meeting was quite large, being

in the vicinity of forty-five, so the new Council should be truly representative.

Agenda items were called for and 4KB moved that Convention Delegates' expenses should be paid on a per capita basis by all Divisions. To assist the Food for Britain Appeal an Inland tray, presented by member Mr. F. Barracough, was raffled and yielded £5/15/- toward the Fund. Thanks, c.m.l.

As the business just outlined occupied a considerable amount of time, no lecture was presented, and the meeting closed with the usual rag-chew around the coffee urn.

SOUTH AUSTRALIA

The monthly general meeting was held on Tuesday, 10th February, and a capacity audience was present. The weather was hot and decidedly "sticky," which was an asset in one respect as the few members who stayed away on account of the heat did so a good turn, because I don't think we could have crammed another one into the hall. Mr. Roy Buckertield (3DA), assisted by Mr. Capell, lectured on "Some Aspects of F.M. as Applied to Amateur Radio." Fortunately for me the lecture consisted of a particularly interesting film on f.m. plus an unusual amount of blackboard explanation and therefore an attempt to rewrite the lecture is almost impossible under those conditions. Suffice to say "Back" is our old star turn with regard to lectures and has never failed to deliver the goods. A vote of thanks was proposed by Warwick Parsons (5FS) which was received with acclamation by all present.

Amongst the visitors were Messrs. Phillips, Lampe, Jackson (V4DJN), Mayman, Powell, Ullstrup, Bisset, Warren, Wood, King, Rodgers, Peters and Jamison. Visiting Hams included Graham Pitt (5GP), Harold Weber (3FW), Bill Barber (6DX), and last but not least our first YL member, Miss Andrews, whose arrival caused quite a ripple of excitement among the "wolves" present.

The meeting was decidedly enlivened by Ted Cawthron (5JR) who rose during general business and had his customary "wings." Ted does a good job at this and will in time be the cause of several over Hams getting on their feet and having a say. This is a good thing and should be encouraged. Although Ted tackled his "wings" from a humorous angle, don't be deceived, he knows more about radio, Amateur Radio in particular, than a good many, and nobody has done more for the up and coming Ham than he. Ever ready with advice, both theoretical and practical, he is a typical Ham and everyone will readily admit that his "wings"

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are often on the largest off and his main hobby is a hobby for "taking off" as well as "dishing it out."

The communications officer for VK6 especially asks for VK6 Amateur emergency work on frequency of 7055 Kc. clear on Mondays and Fridays between 6:45 p.m. and 7 p.m. (Adelaide time) especially on the 15th of the month. He is saying that this frequency is used as the official communication channel for VK6 at the above times the importance of this request is being underlined.

At the time of writing the "wireless" list tells me that the cuckoo is in my nest again, and as the magazine is not out in VK6 as yet, my names are tied. From observations of the "mag" I suspect suspiciously of the "mag" Barber and my respected Editor, I can't do much about Tom, but "Doc" should be in good if you ask.

The Technical Committee comprises the following:—McGrath (2MO), P. Wreford (5DW), Roy Buckfield (5DA), K. Smythe (5MF) and Pete Bowman (5FM). This represents probably the pick of the brains in the VK6 area. They are all good fellows and easy to approach, but they are not phycists and therefore don't know who wants to be one and who does not. If you feel nervous about them come and see me and I will be only too pleased to give you an introduction.

VK6 men were tickled to pink to know that Charlie Chev (5CR) was the "Wyatt Emrys" first contact. While realising that this is probably no more than a well known name, it's nice to steal a little "thunder" from the "wise men of the east."

To clear up any misunderstanding regarding Ross Kelly (5K) who is portable at 14 Mc. (Little South East, S.A.), it was the antenna that was 132 feet long and not the shark he caught, that was only 8 feet long. After the shark was picked up, being over 100 lb. weight, Stanley Ross gets to with that Type 8 Mark II. If your receiver suddenly gets blocked with chunks of r.f. don't pull it to bits without first checking outside. Ross may be working portable in your chicken house.

At Smyth gave up work to "carry bricks" recently. He spent his well-earned hours putting up a new 28 and 14 Mc. super light aluminium tube signal squitter. The 28 Mc. beam is in the rear and the front to back ratio is 100 to 1, second to none in the State. The power leaks in his vicinity (almost inaudible on a single wire antenna) are now a thing of the past.

The power leak at Max Farmer's (5GF) QTH has been lighting with him for so long that Max has adopted the slogan "you can't turn it off" and it's been getting into the Xmas period the noise level in the shack rose almost to bursting point with electric drills, spot welders, hammers and many unprintable words. When the smoke and din cleared away, lo and behold, into being had come (chrome plated and all) a swanky 30 Mc. transmitter (1425 in the final) complete with built in modulator and all mod. cons. It is not certain yet whether Max is going all commercial or trying to handle a hand of "Pamper."

There is in VK6 a Ham who has a call sign, but his licence fee, is financial on the W.I.A. books. As these are great, the licence fee is small, and all and all is a good a bloke as one would wish to meet. The name, certainly, Dick Scott (5BR). The catch is that not a drop of r.f. has yet leaked up the "sky wire". Let's hear from you Dick, or should I say "Open the r.f. Richard."

Having been blamed for most things, I am getting in better by telling in Sullivan (5AJ) that I had nothing to do with the new regulations handbook, especially the paragraph changed from "plain language" to "plain English. It's a shame, Jim, that from now on no more "Spanish" and just when your star pupil E. A. Charles (5QK) was winning us well to. Never mind Jim, they are always those inextinguishable subjects of sky wires and qualities of microphones that can be discussed at great length on 14 Mc. when the DX is good.

The Rotarians boys are frantically erecting 60 feet galvanised iron sheds around their shacks since the word has been passed around that Gordon Brown (5XV) plans the last dry dump on the high power rectifier unit which will feed the "soup" to the 505 final. If Gordon experiences as much trouble in getting r.f. feedback out of his shack as he did with the baby outfit the boys will have no trouble in procuring the galvanised iron as it will be in the list by the time the boys get it.

VK6 has had a military signals' display this month, and part of this display consisted of a couple of televisions mounted up in a departmental store, connected to the Military Parade ground. Massages were swapped between those two stations and the public is believed to be suitably impressed. "Wick"

Barley (5SWM, "Bendie" to you) noticing that the operators were using what was to be amateur abbreviations said to one of them, "Ever work any DX on these gauds?" The operator looked at him and said, "I haven't any idea what you mean, but here, but we have one or two of them down at the parade ground." They tell me that the shop-keeping boys had to use two buckets of water on "Wick" to revive him.

Strange are the workings of officialdom, when newspaper space was unlimited the Institute was asked to supply a column in the "Advertiser" weekly column in the local daily, now that space is at a premium, no trouble is experienced to get all the news items that are put in the paper.

The young associate member who remarked some months ago that he did not think he would bother with the "code" has his make up for it, as would be cut out of the examination before long, certainly has revised his opinion regarding the code after his first make up for it. The code is for receiving. You YOU'RE RIGHT, a lovely big O.

Members learnt with deep regret the news that Lance Coulson (5G) had passed away. He extended their sincerest sympathy to Lance and his father Vic (ex-4WS) in their sad loss. Mrs. Coulson's sacrifices over the years is well-known to all Amateurs, her life of service was outstanding and she will long be remembered by all for it.

Another sports day has come and gone and full credit must go to Joe McAlister and his XV team for a very satisfied. George Bruce (5GB) did a good job with his p.a. Max Farmer (5GF) and Ross Kelly (5K) had a splendid array of gear on display and all those who assisted to make the day such a success deserve the greatest praise. The highlight of the day was the opening address by the Hon. Secretary, Mr. Barber (5B), who was picked up on 7 Mc. and relayed through the p.a. It's all a matter of opinion of course but I am not very keen on Doc's voice, I would rather get a letter from him any day. I have been battling to get one from him for years, but so far no good.

This is a story of a young associate member upon hearing that there was a possibility of some disposal gear being available thought a personal call at the H.M. Secretary's office might achieve better results. Arriving at the said QTH and being uncertain as to which door was Doc's, he knocked on the biggest one he could find. A gentleman in a nice new uniform opened the door (the butler presumably) and the associate member said "good day, is this the place where you give cheap radio parts?" "No," said the gentleman "this is where you come to if you are silly enough to buy 'cheap' radio parts!!!" You don't believe it, will please yourself.

Being a c.w. and phone man myself, nobody can accuse me of being one eyed, but the over indulgence in words of some of the phone men on 14 Mc. is getting over the fence. Taking fifty words to explain a point when three would be as good as becoming the accepted thing. Perhaps it is a good thing that there were no phone men at the season "Victory" as his now famous message "England expects that every man will do his duty" would have been sent as "England expects that every man will do his duty" by the time they get to the current emergency, personnel will only implement their obligations in accordance with the functions allocated to their respective age groups."

The VK6 delegate to the Easter Conference will again be "Doc" Short (5DM) and P. Wreford (5DW) will accompany him as an observer.

Ross Adey (5AJ) has been appointed to the VK6 County committee with the duty who will be the associate member's representative.

WESTERN AUSTRALIA

Owing to the Annual Meeting being held on the third Monday in February, notes from this meeting were not available. By the time these appear, the new 1948 Council will have been elected. Great interest has been shown by the members in choosing their new Council. More nominations than usual were obtained and a ballot was necessary. We feel sure that this day will be a day for Radio in VK6, assuring us of a very healthy future.

PERSONALITIES

VK6QF: congratulations on being the first VK6 to reach Heard Island. We guess this makes a new country for you. A t.b. effort. 6MB: GRM by a canary is Bill's background these days. Mike "Baker" Canary is the vouchword for the Harry H. quite a fine set up down in Albany. A nice rotary beam flashes the job and good DX results. 6LW: setting f.b. results down on 50 Mc. and 14 Mc. Wally will be one of the first VK6s to work interstate. 6RW: One of the State's well-known

Hams, and despite a noisy QTH still gets on the air.

VK6MO: A very nice contact for the 7 Mc. Jade; Alan, the operator, does a f.b. job, and we believe Alan now turned 6MO v.f.o. 6DX: Bill has been away visiting to 42 and VK6, and we guess about the speech of these wise men. This station has been heard on 14 Mc. Short skip in Perth lately. 6FB: Likewise heard in Perth working on 14 Mc. Boulder seems to be keeping on the map these days. 6RT: Len made a visit to Perth recently and acquired some gear to help the signals from Darguin. 6CN: Putting out a f.b. signal with 9 watts from Geraldton. Keep up the good work Syd. 6Y: Heard in Perth recently on 14 Mc. Keep it up Ted, and keep Claremont going on 7 Mc.

6WLM: Has been giving the air at Merrell a rest again. Holidaying at Rottnest Island, has been f.b. according to Mal. 6AR: Our VK6 of Willem fame has been busy lately and has not been on the air so much. Stan has usually a f.b. v.

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DX OF THE MONTH

During this last month, conditions on 28 and 14 Mc. have been worse than this time last year. From about the 4th to the 18th the phone sections of these bands produced just about nil, but outside these dates, conditions were quite good.

28 Mc. Phone; Europe.—Has provided most of the contacts when the band has been open. G there quite prevalent and quite a few new contacts have been made in addition to the old ones. GWSUO and 4CC in Wales, GMAXB and 4IF Scotland, DA4UW and 4AAC Germany, OZ7PH Denmark, PA0MJJ Holland, F8TY France, 1ICE and 1MX Italy, OK2K1 Czechoslovakia, SM5OH Sweden, and OX2NB Greenland were all good contacts during late afternoons or early evenings.

Asia.—VU, VS, J, etc., all still plentiful, but two contacts worthy of note were HZIAB Saudi-Arabia and ARSAB Lebanon—the latter being a long sought-after contact.

North America.—We have at last put in an appearance in the early mornings from 6700 on-wards, the stronger signals coming from W6 and W0, although all districts have been represented. Conditions to this continent have been only spasmodic, but when the band has been open some of the signals have been well over S9. The only Canadians worked were: VETEL, TER, 7AFD—from British Columbia.

Africa.—The only two South Africans to be heard were Z8GJB and 6KS during one Sunday afternoon, and this continent has been very conspicuous by its absence.

Oceania.—Activity from the Pacific has been very limited and apart from a few ZLs, KH6GT Hawaii was the only one worked.

14 Mc. Phone; Europe.—Quite a good variety of DX has shown up from this continent, particularly in the late evenings. G3ASC, 8QW, 3AP, 8TH were the best from the Old Country. G1SUW Northern Ireland, MB9AU and 9AI Austria were the first from that country to be worked on phone post-war, F8MY and 8BS France, SV1RX Greece. OZ3J Denmark, and PA0NG Holland were all good.

Asia.—The VU's from India practically fill the high end of 14 Mc. these early evenings and are easier to work than VK's. In between these 80 plus signals, if one is lucky, a few rarer birds may be heard and worked (with the aid of a v.f.o.) and the best of these were ZC6JP, 6JM Palestine; AD8AR Lebanon.

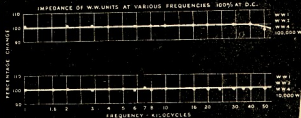
Central America.—Some of these more elusive chaps have put in an appearance again—the four worked were T120A Costa Rica, C07VP Cuba, XE1AC Mexico, NY4ZQ Guantamano Bay, and they provided nice contacts. VK6AP was heard working Y81AC San Salvador one evening.

South America.—HC1PQ is still heard almost nightly and the QSOs with Victor are steadily growing in number as the v.f.o. beats the QRM (sometimes).

Africa.—Has been a most consistent continent this last month, the ZSs being in the majority. Amongst the Union boys worked were ZSM, 47. 2CL, 50. 2AA, 6CY, 6GI and 1R. From further north VO4AWH Kenya, VQSHJP Tanganyika, ET3AF Ethiopia, ZR2JG Southern Rhodesia, VQ8AD Mauritius, MD5AM Suez Canal Zone were all contacts.

Oceania—A few rare boys were heard and worked, one of them providing great excitement amongst the VK2 boys, namely ZK6AF in Western Samoa. One Sunday afternoon, WZPH/VK4 in Guadalcanal, Solomon Islands, was an interesting QSO particularly his exclamation of the unusual type of call sign. WY1QY/KJ6 in Johnston Island was also a rare one. KB6AC on Canton Island in the Phoenix Islands is mostly active on both c.w. and phone three days, and has also took up a very pleasurable half hour of my time.

14 Mc. C.W.—The old adage "a change is as good as a holiday" was well adhered to this last month when the low end of 14 Mc. was graced consistently with a few more VK6s than usual. This fortnight's hashing at CQ provided many new countries never heard before on phone.

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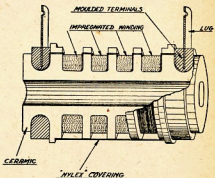
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H.L.P.

Austria, OXSF5 and ZBG Greenland, LA6AO and IWA Norway, OHANN Finland, OKR2D and 3AL Czechoslovakia, DTFF Germany were all added to the list of stations for QSL.

Italy—The only one was SP1AL from VESAS Aden, GH9AN Macao, ZC5WL and 6JF Palestine.

Central America—THEKO Costa Rica, CM2AZ and 2H4 Cuba were added to the list. South America—LU7OD Argentine was worked one evening about 1730, although FY1AD and 1HX in Brazil were chased for a few nights without success.

Africa—A few interesting chases were met in VQ4RA Kenya, M011 Tobruk Libya, CN5MI Zanzibar, 5W400 Zaire, VQ400 and 8AF Mauritius, M2PU Tripoli were the best.

TASMANIA

Holidays again took their toll of attendance at the February meeting, with a total of twenty-four, but there should be a decided rise at the end of the month. The boys are getting on well with us and the festivities are to be continued next day in the form of yet another D/F field day.

QGB visited us on this occasion and was able to resume VK7 ragchats which began in the days when most of us were banging the old man's pet crystal detector on the side of our cut. Or so it seemed.

The intended lecturer could not get along at the last minute, and his place was ably filled by Mr. A.L. Morley, who gave us an intricate black-board tour around a 3-channel carrier system.

Those D/F field days come thick and fast in Tasmania. They are certainly a good way of having a picnic, and the boys are getting on well with us and the festivities are to be continued next day in the form of yet another D/F field day. The transmitter was smartly those days that we may soon see just as well have the picnic and leave the transmitter to the boys. The next evening was held on Sunday, 25th January, when 7CW took the rig to Pipeclay Lagoon, about twenty miles away by road on the east side of the river. Well-known cars have been given us in previous occasions. The Crosby borrowed an A Model Ford and used a well-lit invisible aerial just to make things a bit hard.

Anyway, 71A and Barney Watson got home within a few minutes of each other, the latter winning on points. The boys are getting on well with us and the festivities are to be continued next day in the form of yet another D/F field day. The transmitter was smartly those days that we may soon see just as well have the picnic and leave the transmitter to the boys. The next evening was held on Sunday, 25th January, when 7CW took the rig to Pipeclay Lagoon, about twenty miles away by road on the east side of the river. Well-known cars have been given us in previous occasions. The Crosby borrowed an A Model Ford and used a well-lit invisible aerial just to make things a bit hard.

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FIFTY AND UP

(Continued from page 20)

absence of 4AB, 4CU and 4BK have signified their desire to try and establish a 50 Mc. link with their band. Glad to hear it, e.m. 4RY is rebuilding with new 422 type receiver, 14 and 28 Mc. exciter, etc. 4ZU and 4AB are busy digging bugs out of the 48V, 48V and 4JF are active on the band. 4FN is getting much better quality out of the 60 Mc. transmitter.

From our good friend 5JZ—5NG's forty watts certainly goes a pleasant 5 J.v.f. listener recently reported excellent reception from the verandah of the "Old Spot". The ascender rig consisted of a single stage superregenerative oscillator on the carrier of a motorcycle. Incidentally, the "Old Spot" is located about 15 miles from Adelaide and is well down in a gully. 5GA is sending no more. Not up to his old station, 6GB has a few QGBs now and then also. 56A is an ardent listener. Receives 'em with co-axial antenna about 4 ft. from the turf. As soon as Doc produces the co-ax cable there will be another transmitter on the band. 58F removed the 166 Mc. antenna from atop the tower for a working bee. The bees buzzed off without replacing the antenna. 5JD signs as usual. Is awaiting the pleasure of the local timber merchant —wants to get on the beam.

Since our last notice, several new stations have made their appearance on 50 Mc. in VKs. 6FW is putting out a very L.b. signal from his new QTH. 6MG of Manjimup has receiver and transmitter on the air. The boys are getting on well with us and the festivities are to be continued next day in the form of yet another D/F field day. The transmitter was smartly those days that we may soon see just as well have the picnic and leave the transmitter to the boys. The next evening was held on Sunday, 25th January, when 7CW took the rig to Pipeclay Lagoon, about twenty miles away by road on the east side of the river. Well-known cars have been given us in previous occasions. The Crosby borrowed an A Model Ford and used a well-lit invisible aerial just to make things a bit hard.

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Methods are rather different from those of the VKs. Most of the contacts are straight c.w. No m.c.w. heard so far. We get good contacts up to and over 800 miles, e.g. G4XC, Portsmouth, 125 miles, is very good here. So, though there are hills between them, almost continuous conditions of temperature inversion over this little island cause this DX. Nearly all signs of QGBs, even those from Lenton, 50 miles, to obdurate, they are being bent. We hear FAs, etc., occasionally, though I have not worked out of G. Have not struck any Spor. E but expect in the summer. There is a good scattering of stations all over England so that you get good variation of contacts.

"The idea here is to work as many countries as possible. The keen blokes have 35 countries, but have those from Lenton, 50 miles, to obdurate, they are being bent. We hear FAs, etc., occasionally, though I have not worked out of G. Have not struck any Spor. E but expect in the summer. There is a good scattering of stations all over England so that you get good variation of contacts.

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USES A BOOT POLISH TINI!

160 Mc.—21B had some 1400 Mc. gear in operation at a recent v.h.f. meeting. The v.h.f. field strength meter resonant cavity being made from a boot polish tin! He uses a 446 lightweight tube and three second hand 400 Mc. tubes. There, 2XQ and 2FK also have gear but no contacts have been made. 3VM is still trying to get on 10,900 Mc. but no reports so far as to success.

CONDITIONS IN L.A. (CAND)

News from ex-VK3NW, Ken McTaggart, now G3CXA (temporarily) is to hand. Quoting from his letter:—"Five meters in 'G' land is good but

CORRESPONDENCE

THANKS

Foreign Office,
Downing St., London,
Hague Bag.

Editor "A.R.,"

May I thank you most sincerely for your continued kindness in seeing my monthly journal every month since I left your "Aussie" almost two years ago. The journal is something that I have always looked forward to receiving and it has helped me to keep in touch with the boys of VK3, many of whom I got to know so well whilst I was "down under" amongst you all.

May I also take the opportunity of wishing VK Hams, VKs in particular, all the very best of good luck for 1948. May the "Amateur Radio" journal be as helpful and as interesting to them, that it has undoubtedly been in the past.

Yours sincerely,

TOM D. CADELL,
PAOTOM, ex-VK3EE

SUGGESTIONS

36 Frederick Street,
Horsham, Vic.

Editor "A.R.,"

May I be permitted to express a couple of ideas for our journal. Firstly, I would like to support W. Burford's suggestion that the "Hams and Kinks" section would be a good thing and very popular with everyone.

Secondly, I feel that the "country cranks" are at a disadvantage in this respect—they cannot journal meetings and lectures in the city. What about letting us have the lectures, etc., in print? I am sure this would find favour amongst our "cranks."

"Gremlin" is a fine fellow and is doing a fine job, good luck to him.

Many thanks for your interesting journal articles.

Yours sincerely,

H. R. FITZSIMMONS, VK3FL

["Hams and Kinks" will be commenced as soon as we have sufficient material. Contributions are welcomed. Some letters have been printed in the past, and will be in the future, when manuscripts are submitted.—Editor.]

Mort Street,
Katoomba, N.S.W.

Editor "A.R.,"

For some time I have considered a few ideas which may be of use to you as Editor of "Amateur Radio" and you may not like the ideas, but I have no harm done so here goes. I would like to suggest a question column for technical questions. This would be of interest to the majority of our readers themselves. The Technical Editor would most likely be the best person to edit the column, limiting the questions to those which are of general interest to the average reader.

I would suggest that a few rules be made concerning writing into the column: (1) The subjects must be of general interest to the average reader. (2) The question to be not more than fifty words and answers as short as possible. (3) Questions do not have to publish every question or answer or answer all correspondence. (4) Those whose questions have been printed may obtain all answers to same by sending a stamped and addressed envelope.

Such a column would probably make interesting and educational reading; provide a useful service to those wanting information and bring out of their shells a number of writers of technical articles. One trouble would be that questions would be printed one month and the answers the month following, making it necessary to either reprint the questions or summarize the questions. I would suggest the questions be printed throughout the year and answers to always bear the number of the question.

I hope this suggestion may be of some use and wish you 73 for the present.

Yours sincerely,

H. J. HANFORD, VK3ALR

[The idea is a good one OM and consideration is being given to it.—Editor.]

17 Berwick Street,
Coogee, N.S.W.

Editor "A.R.,"

I read with interest VK3GE's letter in December, 1947, issue and think it was one of the best and to the point that I have read in "A.R." Late 5PH I intended to make a contribution but did not get around to it, but after reading the letters from 3EL and 5PH I thought the time had arrived to try.

The articles I like to see are those describing a piece of gear or an antenna, what the writer has found out, what worked and what did not and why. I agree with parts with 3EL that should improve

our knowledge of the art and should be improved on the fundamentals needed for the ticks and most of us can make a substitution and know what goes on in a piece of gear at a certain frequency, but if we don't know what the underlying mathematics the slightest mistake will give an answer which has no relation to the problem on hand.

3EL says there are plenty of publications for the layman and 6PH states there is an excellent range for the technically minded, but I think quite a few of us are in between suggestions. Give us the dimensions of an antenna, the basis of a v.f.o. or the dimensions of a wave guide and I think most of us would be able to make a reasonable approach to these things will be passed over. I like to turn to Ham Radio as a relaxation and had often thought I had neglected things, but when reading these complicated articles, but was interested to find there are at least two Hams like myself, maybe there are more.

In conclusion I would like to say that the articles on safety are timely considering the frightful haywire we have at times and that the articles by "Gremlin" are always read with most interest. I have not been active enough to receive mention or by some extraordinary stroke of luck my sigs have been good.

Yours sincerely,

W. P. NELSON, VK3KH

43 Yaako Avenue,
Waverley, N.S.W.

Editor "A.R.,"

Apparently Lt-Col. George Evey (VK3GE) started something when he entered that plea for simplicity and modesty in a purely Ham magazine. George SHOULD know the technical trends of the average amateur, such as his likes and dislikes; for many years he has schooled army personnel in Signals, and his comments and remarks, even up a class invariably included a sprinkling of would-be "Hams"—during the war such classes were plentiful, and I am sure of it. I am sure, therefore, out of a class of 36 students, the top rankers in E and M and radio theory—relatively simple at that—comprised no more than about 3 per cent. Theory class failures, however, averaged about 40 per cent. again, despite the elementary nature. In practical work however, failures in exam would be, conservatively, about a per cent.

The Army's needs at that time were for men with plenty of practical ability, plus a small amount of theory, and that the former was the more important. The Army needed men of considerable service value, so it was with the average Ham; he acquires enough "know-how" to qualify for the A.O.C.F., and if he is no shining light, he is probably good enough to be the failing, if such it be. No doubt as VK3EL says in "A.R." for February, 1948, "the chap with little or no knowledge of the theory of the job he is on generally makes a hash of it," but we should not lose sight of the primary consideration that Amateur Radio is a HOBBY. For those with a professional background in technical radio, an ample quota of technical-scientific knowledge is of paramount importance, and if the professional man is attracted to Amateur Radio, then making himself, if he goes out of his way to help less learned colleagues over hurdles with preferred advice. But, if the average Ham, in his present status of the many modestly-inclined Hams not gifted with mathematical brilliance, and if he writes articles for magazines only in expression of his own E.E. ideas, he definitely seems a wrong note in Amateur Radio.

Practice and the mathematical reasons for it are important, but that is not the reason for dealing with the theory, and that is, in as simple a form as possible where Radio Amateurs are concerned.

That outstanding publication "QST," aptly dubbed the "Amateur's Bible," is always to the forefront with practical development; in many instances brought to the attention of the average Ham problems. It amply supports any practical story with the why and wherefore, but always in the language of the man in the street. The humblest of us, the amateur can follow it with all average reasoning. As one who has contributed "acres" of copy in technical radio journalism for more than 25 years, I regard that VK3EL is right about the "A.R." with a mass of equations and calculus, and readers interested will be in a small minority. The majority wants to know "what's what," "what's new," "what size former?" etc. It is by catering for this majority that your publication will remain what it is today.

In conclusion, a word or two about the thought "Gremlin." Criticisms of his repartees are right on 7C R.F. May I suggest that some prizes take the form of much more than a "thumbs up" is necessary in this hobby, which after all, is merely that, and Australians are supposedly noted for their ability to "take it." I am sure that the individual attribute "Gremlin's" identity to myself,

an "accusation" that I must, out of fairness to "Gremlin," whoever he may be, deny forthwith. May he continue with wasp-like persistence to sting wrong-doers in tender places.

Yours sincerely,
D. R. KNOCK, VK2NO.

"GREMLIN'S" ARTICLE

673 Forrest Hill Ave.,
Albury, N.S.W.

Editor "A.R.,"

I am anxious to read in February "A.R." references to 20M by "Gremlin" under the heading "Some New Points." 20M is certainly hardly of benefit to a v.f.o. user, running a carrier around the band, and signing one. Will "Gremlin" please tell me the advantages of 20M took place in which band, and with what station was 20M QSO?

The answer will be very interesting, because, believe me, I have never used a v.f.o. Way back around 1925 I worked with a 20M oscillator for crystal and have been c.o. ever since. How could I possibly run a carrier around the band? As I am signed to 20M, which is not a legal frequency, that accusation is definitely against my idea of operating, apart from regulations in force. "Gremlin's" wording of "if it is a New Year resolution you wish, try stripping H.I. of some of its fat." I am sure it's not funny I guess. I agree, there is nothing like a hearty laugh at something funny—it does one good. H.I. has not done me any harm, and I am sure there is no need for "Gremlin" to try to tell me something which I already know. To sum up, 20M is not guilty of "Quantity" accusations, and a published apology is requested.

What is wrong with a v.f.o. anyway? I think an asset to any station, but of course must be used and not abused. You are right, I intend to install one as soon as possible and be proud of it, but it will be used as one should be. I think the "Gremlin" comments are a little harsh.

I think it high time this sort of thing is brought to a close. Why not a bit more helpful co-operation? Thus, an Advisory Committee, which I am sure would tackle any "Breaches" in a more business-like manner, and be certain before making any accusation. "Gremlin" is not getting us anywhere. As Hams are signed to 20M, I am sure that if that's in the game. Satirical and erroneous remarks are not helping any. Think it over. Come out in the open and defend your position. Whether you've been a Ham for 20 or 2 years, what does it matter. No offence is for me.

Yours sincerely,
NOEL ARNOLD, VK2GM

["Gremlin's" closing paragraph was a general observation on the use of c.w. abbreviations when using telekey, and did not refer to VK2G3. The responsibility for the use of the call VK2G3 occurred to the writer?—Editor.]

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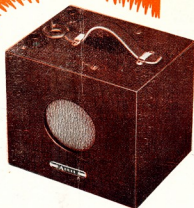
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